

# Municipal Journal And Engineer

VOLUME XXV.

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GENERAL VIEW, SHOWING NEW AND OLD SIDEWALKS

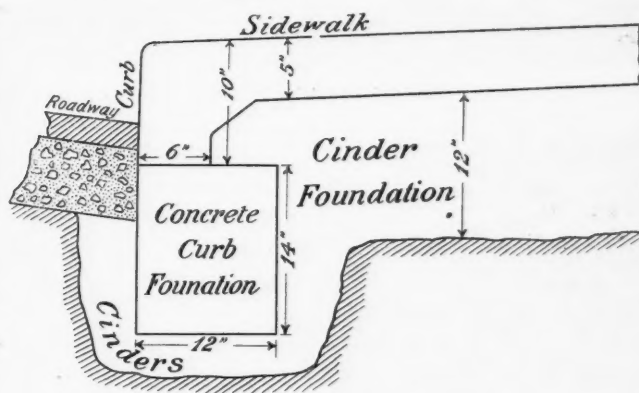
Construction of Twenty-five-Foot Sidewalk in Chicago—  
With an Acid Wash—Detailed Cost of Work, Materials  
and Methods Employed—Surface Finished

MICHIGAN avenue, Chicago, has for some time been unable to properly accommodate the traffic which has been overcrowding the roadway, especially in the evening, when many automobiles use it. To improve these conditions the South Park Commissioners decided to widen the street from fifty feet, the present width, to seventy-five feet, between Park Row and Jackson boulevard. In connection with this work the sidewalk on the west side of the street will be made thirty feet wide, extending beyond the present curb line, and that on the east side, where Grant Park is located, will be twenty-five feet, the present east sidewalk being made a part of the roadway.

While the change in the width of roadway will not be made until next year, it was thought best to construct as much of the sidewalk on the east side as possible this fall, and a description of the methods used is the purpose of this article. This is possibly the largest single stretch of sidewalk ever laid at one time in the city, and will total about 90,000 square feet. The work is being done by the city by day labor.

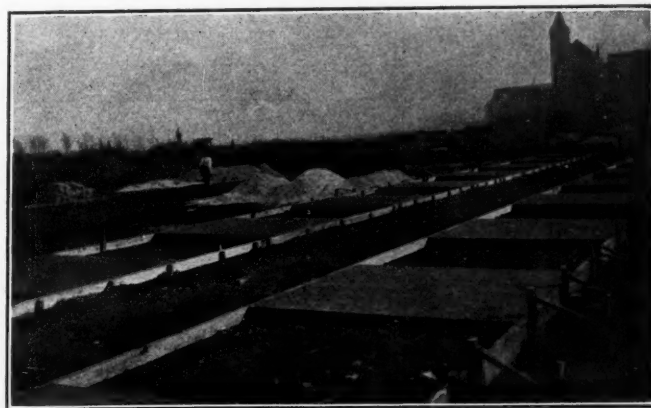
Owing to the fact that the whole surface of Grant Park in this vicinity will eventually be raised, the surface of the sidewalk is placed at the proper grade, which is some ten inches above the present park surface, and also nine inches higher than the curb on the opposite side will be. In the construction, therefore, very little excavation was necessary.

The edge of the new sidewalk will form the curb of



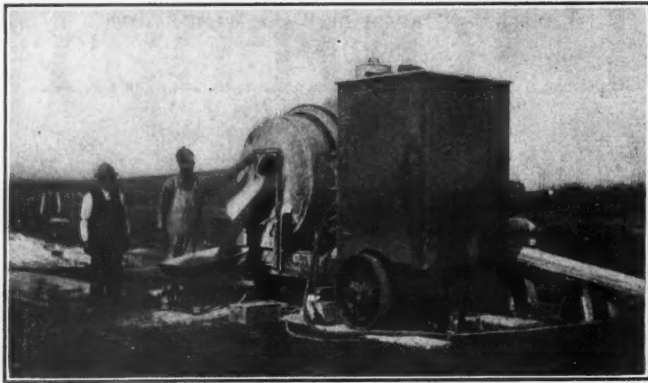
SECTION OF SIDEWALK AND CURB

the completed street; consequently, before the sidewalk construction was started, a concrete foundation was built for the curb. The sidewalk foundation was made of twelve inches of cinders. These were secured from the dumping ground on the opposite side of the I. C. R. R. tracks, where an extensive fill is being made for a future park. On the thoroughly compacted foundation a chequer work of wooden forms was laid out for sections or slabs eight feet four inches square, these dividing the sidewalk width into three slabs. Alternate slabs of the two outside lines were first built, then the other slabs of the outside lines were filled in, followed by alternate slabs in the center line; and last the unfilled slabs of the center line were added. In this way each slab is separate from the adjacent ones, and any subsequent movement of the sidewalk will not cause breaks in the slabs.



FIRST SECTIONS COMPLETED

The material used in the concrete was delivered in cars on a siding of the I. C. R. R. nearby, and carried from there to the work in wagons. The mixture used in the base consists of one part Atlas Portland cement,



CONCRETE MIXER; FRONT VIEW



CONCRETE MIXER; REAR VIEW

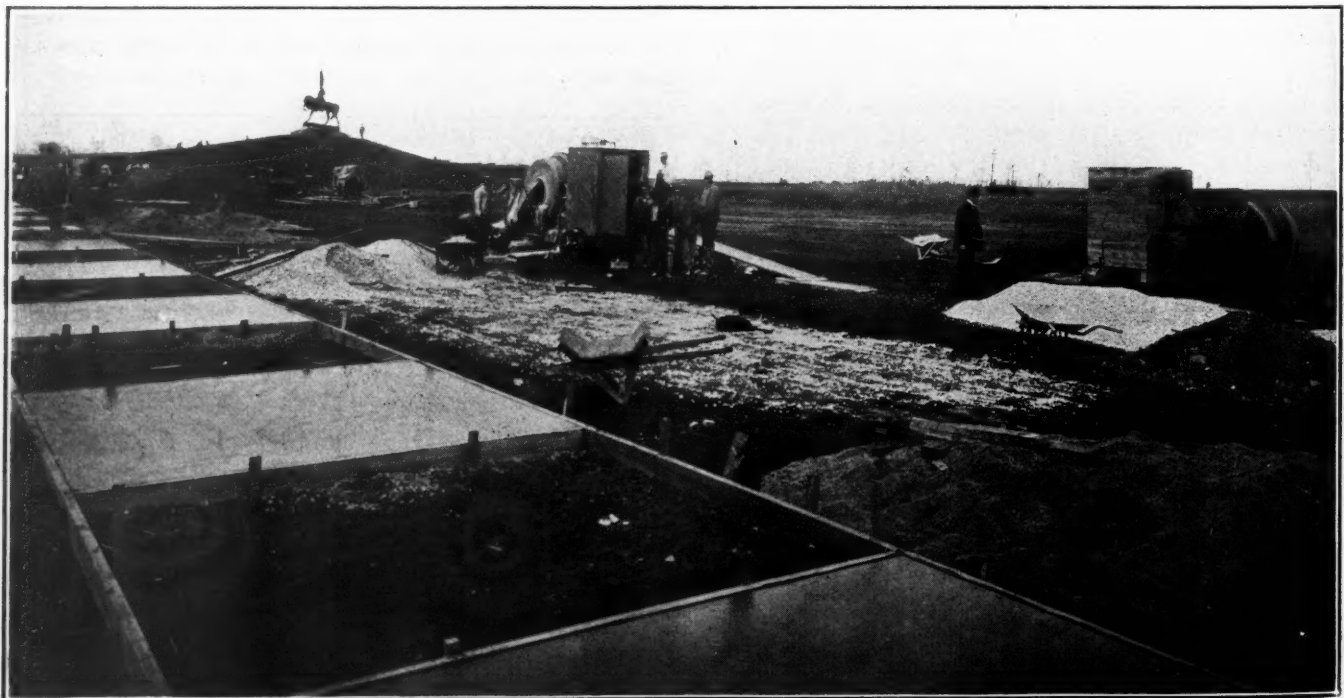
two parts sharp, clean sand, and four parts crushed limestone three-quarter-inch size. This was mixed quite dry in a No. 1 Chicago Mixer, two of which were used on the job; which machine was chosen because of the quickness with which it operates and the small amount of labor required in its operation, the turbine-loading device helping to reduce the cost of the work. From the

mixer the concrete was wheeled to the work in metal barrows, dumped, and spread to the desired thickness, about  $4\frac{1}{4}$  inches finished, and then thoroughly tamped. This concrete was so dry that no moisture appeared at the surface. Along the curb line of the sidewalk the concrete was kept back about  $\frac{3}{4}$  inch from the wooden form by a strip of metal to which are attached spacing lugs. This strip was removed when the surface material was put on and the space was filled with that material, thus giving a smooth, finished face.

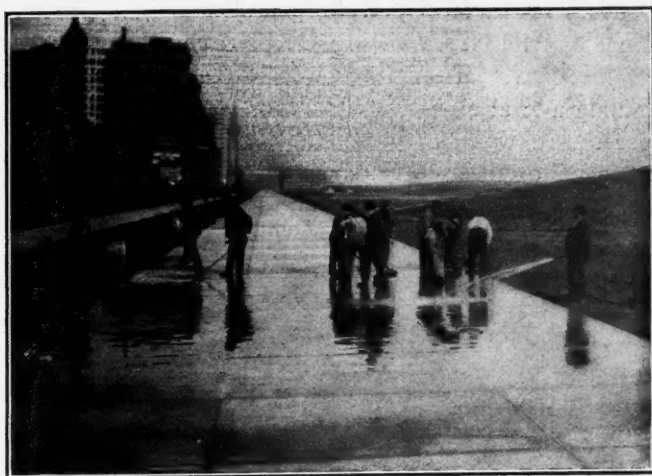


FINISHING FIRST SECTIONS

The top dressing or surface of the sidewalk is about three-fourths of an inch thick. It consists of one part Atlas Portland cement and two and one-half parts Montana red granite screenings. This was mixed very thin, by hand, and wheeled in metal barrows and placed in position immediately upon the completion of the base. It was leveled off with a wooden straight-edge, which floated it evenly over the entire surface, and at the same time puddled it quite densely. It was finally finished up with both wooden and metal smoothers, the joints were worked out with the usual grooving tool, and then allowed to set till hard.



GENERAL VIEW OF SIDEWALK CONSTRUCTION



TREATING SIDEWALK WITH ACID

After it has set hard the whole surface is treated by a special patented process devised by Assistant Park Superintendent H. S. Richards and former South Park Engineer William Black. The treatment consists in washing the surface with a solution of muriatic acid. This removes the surface coating of cement, allowing the color and character of the aggregate to appear and at the same time prevents the slipperiness usually present. This treatment has been used on a great deal of

#### Cost of Laying Concrete Sidewalk on Michigan Avenue, Between Park Row and Jackson Street

AREA, 25 FEET BY 3,466 FEET OR 86,650 SQUARE FEET  
CONCRETE WORK

<i>Labor</i>	
On walk.....	\$2,825.86
" curbing.....	376.34
	<hr/> \$3,202.20
<i>Material</i>	
240 Bags Lehigh Cement..... at \$0.43	\$103.20
1,020 " Atlas Cement, by wagon (bbl.)..... "	1.55 397.80
10,940 Bags Atlas Cement, by car.....	1.33 3,610.20
282 Yds. 4 Granite..... "	3.70 1,043.40
108 " Torpedo sand..... "	1.75 } 1,066.80
532 " "..... "	1.65 }
1,261 7-10 yds. Limestone.....	1,981.17
Miscellaneous material.....	66.63
14,307 ft. Lumber for forms and strips.	338.04
	<hr/> \$8,607.24
CREDIT BY MATERIAL LEFT OVER OR USED ON OUTSIDE LABOR	
<i>Left over</i>	
600 Bags Atlas Cement at \$0.33	\$198.00
8 Yds. Stone..... " 1.65	13.20
4 " Granite..... " 3.70	14.80
Cost of material used on outside labor.....	59.02
12,200 Cement Bags returned at \$0.07½.....	915.00
	<hr/> 1,200.02
Total material.....	7,407.22
	<hr/> \$10,609.42
Add 10% for Superintendence and Tools.....	1,060.94
	<hr/> Total Cost of Concrete Work..... \$11,670.36
86,650 sq. ft.—Cost per sq. ft., 13½ cts.	
UNIT COSTS ON SIDEWALK AND CURB	
Labor.....	3.70c. per sq. ft.
Cement.....	3.46c. " " "
Material.....	4.70c. " " "
Forms.....	0.39c. " " "
Superintendence and Tools.....	1.22c. " " "
	<hr/> 13.47c. " " "

WASHING SURFACE OF WALK WITH ACID	
Labor.....	\$289.75
<i>Material:</i>	
60 Carboys Muriatic Acid,	
180 each..... at \$0.01½	\$135.00
36 Deck Brushes..... " .50	18.00
	<hr/> 153.00
	<hr/> \$422.75
Add 10% for Superintendence and Tools.....	44.27
	<hr/> \$487.02
Area of Surface washed with acid, 29,395 sq. ft.—Cost per sq. ft. 1½ cts.	
Grading: Cost of Grading for Walk.....	\$4,104.05
(Including removal of 8 inches of soil and filling with cinders to a depth of 12 inches.)	

the concrete work done by the South Park Commissioners both on sidewalks and buildings.

While it will be seen that the cost, as given above, is slightly higher than is usual for such work, it is less than is generally the case when the work is done by contract. Furthermore, this work was probably done more carefully and in a better manner than is usually the case when performed by contractors.

#### STREET REPAIR ASSOCIATION

##### Citizens' Association in San Francisco—Its Origin and the Work It Has Done—Cost of Paving Work During October

THERE has been in operation in San Francisco since January 10, 1907, an association of citizens called "The Street Repair Association," which has done excellent work and is in many ways unique. One of the Executive Committee, in response to an inquiry by us, describes its origin as follows:

"The disastrous fire which swept away the main portion of the business section of our city practically ruined our pavements, cracking and destroying both asphalt and stone. The enormous amount of heavy traffic caused by the excavation of the debris and rebuilding of the city, aided by an unusual heavy rainy season, completed the work of destruction of our local highways.

"A most corrupt municipal administration, which did practically no work other than to line its own pockets, brought matters to such a pass that traffic through our business sections was almost stopped and the thoroughfares were practically impassable. It was this emergency that caused an assembly of a number of the prominent merchants here to discuss ways and means of relief. Finding no help from our city authorities we concluded that we must do the work ourselves and therefore appointed a committee to handle it, collect funds by popular subscription and organize a regular business outfit to do the street work. We went at it with a view of merely opening the highways to travel.

"When the reform movement placed in power men of proper character and ability to carry on the work, we blended our efforts together with the city administration and from that time on have been conducting our movement as auxiliary and for the purpose of aid to our city officials in their work."



The movement for the formation of this Association originated with the Draymen's Association, with whom the merchants cordially united, and the Association thus formed at once appointed an Executive Committee of five with full power to act. This committee requested funds from the business houses of the city and during the first six months of its existence received about \$36,500 in this way. It purchased tools and kept a force of men employed on street work under a competent engineer for about six months. The paving was done entirely with stone blocks, since these were on hand and pavements could be constructed of them, ready for use, more quickly than with any other material at hand. The city furnished the blocks and a large portion of the gravel, and also for a considerable part of the time the teams necessary to haul these. During the six months 453,329 square yards of stone block paving were laid by the Association at an average cost of 6.8 cents per square foot.

Lack of paving was not the only hindrance to traffic, however; immense piles of mud and refuse were found all over the principal thoroughfares. The funds of the Association were not sufficient for the removing of these, and the citizens generally were appealed to and the now familiar idea of a "house cleaning day" was adopted. On that day all classes of men turned out with picks and shovels provided by the Association, while the ladies of all classes prepared a dinner for the workers. It was conservatively estimated that more than 30,000 men were engaged in this work. More than 3,000 teams were at work and about 30,000 loads of dirt were carried off the streets and 30,000 additional loads piled up for subsequent removal.

During this six months a careful census of every foot of street in the city was taken and the reports carefully compiled and put into permanent form for future reference; which records were for some time and to a certain extent are still used by the city officials in the work of the Street Department. The cost of preparing these plans was about \$500.

After the reform administration was placed in power the Board of Public Works requested this Association to let it have the services of Mr. Broderick, who had had charge of its work, and he was appointed and is now Superintendent of the Bureau of Street Repairs, a bureau which was established at that time. The Association, although relieved of the expense and labor of actual construction, still makes careful inspection of the streets, watching the work being done and noting where new work is most necessary; it keeps a daily record of all the work done by the city, with the cost of labor and materials upon the same, checking all money expended by the Bureau.

Under the reform administration the Bureau now publishes each Thursday, in the "Municipal Record" of that city, the report of its expenditures during the preceding week, classified according to the location of the work and the several amounts which are used for labor, material and teams. These include the expense of the superintendent's office, the corporation yards, team foreman and incidentals; but apparently

nothing for depreciation of plant, cost of tools, etc.

During the week ending October 17, nineteen jobs of paving with basalt block were carried on, these containing a total of 52,197 square feet. The average cost per sq. ft. was 9.8 cents.; the total including \$219.31 expenses of the Superintendent's office, \$93 at the corporation yards, \$24 for team foreman, and \$25 incidentals. During the following week 47,169 square feet of the same kind of paving were completed, the average cost per square foot being 10.3 cents, and the general items being the same as above except that an additional item of inspection is added, costing \$90, which apparently was included in the expenses of the Superintendent's office the week before. Five stonecutters were employed in changing old cross walks into curbing, the average work performed per man per day being 12 running feet at a cost of about 46 cents per running foot.

During the former week 9,212,351 square yards of street were swept by hand, there being used therefor 681 days of sweepers, costing \$2,109. During the same week 865,777 square yards were swept by machine, and 2,769,800 lineal feet of streets were sprinkled during four days, there having been rain during the other two. On this work were employed 297 $\frac{1}{4}$  days of teams, costing \$1,932.15; and \$21.25 was paid for dumps. The cost of water for sprinkling was \$120.

The Association believes that the work of this Bureau has been done more cheaply than ever before in the city's history. "Our satisfaction has been most genuine to observe that in the street work under our observation the only qualification enabling a man to gain employment on our streets has been that of merit."

The interest of the Association in the street work is not confined to careful oversight of what is being done, but it has endeavored to obtain from the Board of Supervisors adequate appropriations for the carrying on of the work. The fact that it represents the merchants of the city undoubtedly gives great weight to such requests and recommendations.

Fortunately there is in most cities no necessity such as existed in San Francisco for the formation of such an Association. The work of this body of citizens, however, offers another illustration of the good which may be accomplished by citizen organizations when their servants, the municipal officials, refuse or neglect to properly carry out their wishes.

#### SHALE ROCK FOR PARK ROAD

ABOUT a mile and a half of driveway in North Park, Springfield, Ill., was built last year, and surfaced with shale at a cost of 19.6 cents per square yard. The shale was spread 8 inches thick and compressed to 6 inches by rolling. It was hauled from mines, one a mile and a half away and another two miles. Hauling from the former cost 40 cents and from the latter 60 cents per cubic yard, two yards being hauled at a load. The sod cut from the line of the road, 4,648 square feet in area, was used for sodding the sides of the cuts and fills, at a cost of 9.3 cents per square yard.



## MACADAM AND SEWER CONSTRUCTION

In Rockford and Freeport, Ill., the Past Season—Municipal Quarry—Cost of Paving—Novel Method of Spreading Sewe. Assessment

THE city of Rockford, Ill., while it is not permitted by State law to do its street paving except by contract, secures many of the advantages of doing its own macadamizing by virtue of the fact that it owns its own quarry and crusher plant. Owing largely to this, its streets are macadamized at the low average price of 39 cents per square yard. The usual width of roadway is 34 to 35 feet and costs about \$1.54 per running foot; of which amount the property owners on each side pay 25 cents per running foot, leaving a little more than two-thirds to be met out of the general fund.



SHOVELED RUBBLE FOUNDATION AT FREEPORT

In building these streets the bottom layer of stone is so-called "shoveled rubble," which comes from the softer rock at the top of the quarry; and the top four inches are of 1½-inch stone from the bottom of the quarry, which is harder than the other. The base is rolled with

a 15-ton roller, after which the harder top stone is placed and is covered with screenings in the usual way and rolled with a 20-ton roller. There are no specially constructed gutters, and plank is used in place of concrete or stone for curbing.

Freeport, unlike Rockford, lets to contractors the entire contract for both material and work for its macadamized streets. The whole cost of these is paid for by the abutting property owners; this including the street intersections. Combined concrete curb and gutter or a brick gutter and stone curb have been used on macadamized streets. The average cost of macadam has been about 40 cents per square yard. Three foot brick gutters have cost \$1.60 per square yard and Ohio sandstone curbing 65 cents per linear foot. Some of the work done here, as seen by our representatives, was being performed by other than the most approved methods. The sub-grade was not rolled sufficiently to be thoroughly compacted and was not brought very closely to the required cross-section. Rolling of the crushed stone was begun at the center instead of at the sides. It seemed also as if too great a quantity of screenings were used on the surface.

During the past season between five and six miles of vitrified earthenware sewers have been constructed at Freeport, Ill., the contract for these having been let to N. Ford, of Cedar Rapids, Ia., for \$43,000. In the construction of these, Parsons' excavators have been used extensively and appear to have been successful in excavating trenches in the soil of that city.

While there was little out of the ordinary in the construction of this system the method of spreading the assessment presents some unusual features. The section of the city where these sewers were constructed had before been unsewered. Three of the taxpayers of that section received a large proportion of the benefit of the sewers and they were assessed what it was esti-



TRENCHING MACHINE IN USE AT FREEPORT, ILL.

mated a private sewer for their use would have cost them. A school was assessed \$500, an orphan's home \$500, and a manufacturing plant \$400. These sums were deducted from the contract price and the remaining amount assessed against the foot frontage of the owners of property abutting on sewers constructed; except that where property faced two intersecting streets assessment was made for the frontage on one street only.

#### OIL AND AMMONIA FROM SEWAGE

IN a paper read in London before the Institute of Mining Engineers, Mr. Marmaduke F. Purcell described a method of utilizing sewage for the production of crude oil and ammonia, together with certain experiments which had been carried out looking to this result. The author stated that in studying the question of the utilization of sludge it became obvious that it is most unsatisfactory and uneconomical to aim at the production of only one product, but that a number should be obtained in the operation.

The process devised by him deals with the sludge after it has passed through the filter press or has been otherwise condensed. When the sludge has been precipitated by lime it is especially well fitted for the manufacture of cement. London sludge so treated contains 58.06 per cent. of moisture, 16.69 per cent. of organic matter and 25.25 per cent. of mineral matter. The mineral matter contains 7.94 per cent. carbonate of lime, 2.45 per cent. free lime, 8.08 per cent. silica, 3.39 per cent. alumina and small amounts of other minerals. Chemical examination indicated that the material was capable of yielding by distillation large amounts of ammonia and also an oil valuable as a carburetting material for enriching gas.

The earlier experiments indicated that the sludge must be distilled in a retort in which it could be given two or more different temperatures; at the lower of which certain elements chemically combined to form the oil vapor, and at the higher nitrogen was burned, so to speak, in an atmosphere of steam and converted into ammonia by the action of the caustic lime produced in the operation. Further experiments, he said, demonstrated that oil could be obtained which would be excellent for liquid fuel or for gasifying. The residue from the retort was a valuable material for conversion into cement. A considerable amount of incondensable gas was produced, which it was suggested could be used in drying the sludge, for which purpose also hot gas flues could be carried under especially arranged floors on which the sludge cakes would be spread. Oil, gas and ammonia water could be produced and condensed in suitable receivers and then separated.

From a number of experiments, both in the laboratory and on a larger scale, it was found that on an average from 9 to 10 gallons of oil and from 57 to 65, and in some cases 100 pounds of sulphate of ammonia per ton was obtained. It was found necessary to dry the sludge cake until it contained not more than 15 per cent. of moisture before distilling it. The author estimates that the yield of one ton of sludge should be approxi-

mately as follows: 20 gallons of crude oil, at 3 cents per gallon, 60 cents; 80 pounds of ammonia, at 3 cents per pound, \$2.40; 600 pounds of residue suitable for cement, \$2.40; total, \$5.40. He estimates the cost of obtaining this to be: Drying, \$1; distilling and producing crude oil and ammonia; \$1.10; crystallizing sulphate of ammonia, including the cost of the sulphuric acid, 60 cents; total \$2.70. The author stated that he was carrying out some experiments which, if as successful as he expects, will enable him to obtain about 200 pounds of sulphate of ammonia per ton of dried cake. The oil obtained from this process is small in quantity and of so little value that its principal use would be for carburetting a portion of the gas produced, which would probably be used about the works, as in drying the sludge.

#### PARIS ROAD CONGRESS

THE general opinion of the English and American delegates to the Road Congress, recently held in Paris, appears to be that very little immediate good was accomplished thereby. A representative statement appears to be that made by one of the delegates, that, "So far as the discovery of any of the new methods of treatment is concerned, the Congress was, in my view, a failure. The general level of excellence of papers contributed appeared to me poor. . . . A general absence of data as to cost of various methods of maintenance was noticeable, and consequently the financial question, which is the most important of all, received no elucidation." The conclusions or resolutions of the Congress set forth little which was not already known and recognized. One of the ideas most prominently advanced was that attention must be given to the automobile with a view to regulating its speed; and that a study be made of the effect of automobile tires on roads. In other words, the conclusions seemed to be reached that it was not at present practicable to greatly improve the structure of the road, and consequently attention should be given to a reduction of the present destructive tendencies.

As the papers were in several languages, were so long and voluminous as to make it impossible for all to have received proper attention, even though all the delegates had been familiar with the various languages employed, and as few if any of them were published beforehand, there are probably few, if any, of the delegates who can give a general summary of the facts and ideas presented. A synopsis of the papers and final conclusions of the Congress will be published later, and not until then will it be possible to fully determine whether they are of sufficient importance to have warranted the Congress.

Whether or not the papers themselves should prove to have this value, however, considerable benefit has undoubtedly resulted from calling general attention to the importance of the subject, and from the opportunity offered to the experts of various nations to confer together, and also to examine the roads of France, which have heretofore had the reputation (not justified in the opinion of some of the delegates) of being among the best in the world.



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It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

NOVEMBER 25, 1908

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### Binder on Macadam Roads

PASSING reference is made on another page to the practice in a certain city of using a large amount of screenings in the construction of its macadam roadways. The use of an excessive amount of binder, whether of screenings or of clay, is by no means confined to one or two cities. There are certain advantages connected with this practice, these being chiefly that the surface can be compacted with a less amount of rolling, and, as a consequence of this, that the street can be opened to travel sooner than if clean stone or stone with but a little gritty binder were employed. Our observation has been, however, that this temporary advantage is more than lost in the maintenance, since the money saved in rolling is spent later in removing from the surface the surplus binder which is squeezed out by the traffic; and the removal of surplus binder causes as much ultimate obstruction as was avoided by its use during construction.

The serious objections to the practice, in our opinion, are that when the surplus binder becomes softened by rains, it not only squeezes to the surface, causing mud and later dust, but during this process the stones are more or less free to move and there is a tendency to rutting and the formation of billows and pot holes in the surface. MacAdam's original idea contemplated the use of absolutely clean stones only, these being rolled for a long time until they were forced together, without any binder except such as might be created by the slight abrasion and removal of projecting corners caused by the rolling. While this is now considered unnecessarily extreme, we believe that roads approximating this in their construction prove themselves to be more enduring, to maintain their surface better and to be much less dusty than roads in which all the binder was used which could be worked into the wearing surface. Whether the binder be dirt, tar, or other substance, we believe that the strongest and most satisfactory road is obtained by reducing the amount of this as nearly as possible to a minimum.

### Sidewalks and Pavements

A CORRESPONDENT calls our attention to the use of the word "Pavement" in the heading of the table on page 641 of the November issue, which had escaped our notice. In many localities this word is used to designate the sidewalk in distinction from the roadway; and as a matter of fact the surface of either when paved is a pavement; but the best present practice confines the word to describing roadway paving only, the portion beyond the gutter being called the sidewalk.

### New Orleans Sewers and Water Works

WORK is now progressing rapidly in New Orleans, not only in building the sewerage and water works plants, but in connecting buildings with them wherever possible. Five foremen and ten gangs are at work making house sewer connections, and completed 252 of these during October. Of permits for connecting with the water mains, 317 were issued in October, making a total of 2,965, of which 224 separate taps were made during that month. Superintendent Earl requests all citizens to order the connections at once in order that this force may be kept busy, and to reduce as much as possible the rush which will follow the compulsory order to install water and sewer connections.

The water works plant has, for some time, been in partial operation, and during October an average of 70 pounds was maintained on the greater part of the distribution system. This brought to light a number of small leaks, which were easily repaired, and three breaks in large pipes, which were probably due to cracked material. The assistance of the new water works was given toward the extinguishing of a large fire during the month.

With a view to relieving sections of the city from its water famine during the drought which may be expected at this period of the year, and to prevent the damaging of fire hydrants due to unauthorized opening of the same for obtaining water in such sections, Superintendent Earl

was authorized to attach self-closing cocks to hydrants in localities where the cisterns are dry, it being understood that wherever cocks are broken off or damaged and water thus allowed to run to waste, this relief will be discontinued.

In anticipation of a general demand for immediate connections to the water system, the Executive Committee recommends that an order of precedence be adopted; the first to be attended to being engine houses, markets, and other public properties which are not supplied by the old water works; second, properties not on the mains of the old water works company, and whose cisterns have gone dry; third, houses under construction without cisterns; fourth, old houses at the same time as the sewer connections are made; fifth, houses already connected with sewers where existing pressure is insufficient; sixth, any houses in districts where the old water works service is constantly bad, and seventh, connections where use of water is to be made only after the filters are completed.

## GARBAGE DISPOSAL IN THE NORTHWEST

Report on Plants at Seattle, Portland and Vancouver, by a San Francisco Committee—Two Hundred Horsepower of Steam Generated—Cost of Operation

AN advisory Committee on Garbage Disposal has reported to the San Francisco Board of Supervisors the result of their inspection of three garbage and refuse disposal plants at Seattle, Wash.; Portland, Ore., and Vancouver, B. C. The inspection was made in person by two members of this committee and by two Supervisors of the Hospital and Health Committee.

At Portland they found an incinerator of the Engle type which is used for the destruction of wet garbage and dead animals only, of which about thirty tons per day are consumed. Fuel is required for burning. As it was concluded that this type was not suitable for San Francisco conditions, little attention was given this in their report. The report on the other two is as follows:

The Seattle destructor is a Meldrum, with four cells, having a capacity of 67 tons per day of 24 hours. The forced draft is by a steam jet beneath the grates and a steam jet in the chimney. It is believed that this form of force draft is not so easily controlled as would be a fan forced draft, but is useful under certain conditions. The noise from the exhaust steam is objectionable, but this can be obviated when more of the power is used.

The plant is equipped with a B. & W. water tube boiler, which was carrying 140 pounds of steam during our several visits to the place. Two hundred horse-power is generated, which is at present used only for the steam forced draft and for running a small rock crusher used to crush the clinker for concrete. The greater portion of the power is going to waste, but will be utilized later.

The refuse is fed by hand into the furnace in front and the clinker is removed from the same doors.

The heat generated is intense, and entirely consumes all refuse except a few very refractory kinds which are destroyed in the combustion chamber. The high temperature secured at the plants in Seattle and Vancouver is the secret of the success of these destructors. The temperature in the combustion chamber of the Seattle destructor is from 1800 degrees to 2800 degrees F., and the average temperature is 2300 degrees. All smoke and gases from the grates must pass through this com-

bustion chamber, where they mix and are burned before entering the chimney. As a temperature of 1800 degrees F. is sufficient to destroy all combustible gases it will be seen that there is little chance for any objectionable odors to escape from the chimney. Analyses of the gas at the base of the chimney show less than one-fourth of one per cent. of burnable gas. From the combustion chamber the hot gases pass through the boiler tubes and thence pass through the regenerator tubes, which heat the air used for the forced draft to over 300 degrees F. The temperature in the combustion chamber at this plant is so high that even tin cans are successfully destroyed. The cans are left in the combustion chamber for two or three days where they are either melted or burned brittle so that they come out in fragments and are suitable for filling.

There was very little smoke escaping from the chimney, which is only 80 feet high, at the times we visited this plant, although it was in full operation, and most of that observed was apparently steam from the steam draft in the stack. There were no odors about the plant except immediately over the garbage bin and this is obviated at the Vancouver plant by the air ducts for the fan draft system. The garbage is entirely consumed, the refuse therefrom consisting of fine ash and clinker.

The plant at Seattle cost \$36,000 to construct. It is only a 67-ton plant and the building around the furnaces is only temporary. The operating cost at present is 71 cents per ton. They expect to reduce this 20 cents per ton when certain changes are made in dumping the refuse and thereby reducing the labor. When the waste power is utilized and clinker is sold the cost can be still further reduced. No fuel is used, as the garbage, which is mixed refuse similar to that in this city, burns itself.

The destructor at Vancouver is a Heenan & Froude. It consists of only 3 cells and has rated capacity of 50 tons per day. It cost complete \$41,193. It has a permanent brick building and is also equipped with a steam disinfecting plant for the use of the Health Department in disinfecting clothing, etc. It is located in the business district, in a block facing one of the main business thoroughfares, and is only 200 feet distant from the street. It is surrounded on three sides by business houses.

The operating cost at this plant for a five-months' run was 56 cents per ton without deducting revenue received, or 46 cents after deducting revenue. This plant differs from that at Seattle more particularly in the kind of forced draft, the method of firing and the system of ventilation.

The forced draft is by a centrifugal fan which forces air, heated to 500-600 degrees Fahrenheit, through the grates, quickly drying the garbage and causing it to burn rapidly with an intense heat.

The furnaces consist of a single long grate, but with separate front and back doors and separate closed ash pits. They are fed by hand from the back and clinkered from the front, which your Committee believes to be an advantage over single front hand feed.

The ventilating system is such that all air inside the building and from the garbage bins is drawn into the air ducts and forced by the fan draft through the fire and burned so that no odors can escape from the building.

Your Committee considered that in these three respects the Vancouver plant was an improvement over that at Seattle, but that the Seattle plant was superior in its combustion chamber resulting in more complete combustion of gases. Both plants, however, consume their garbage completely and without any objectionable odors and may be considered as working successfully. The temperature at the Vancouver plant is from 1500 to 2000 degrees Fahrenheit, which they consider sufficiently high.

At this plant large dead animals, such as horses and cows, are destroyed in the combustion chamber in about three hours. This can also be done in the Seattle plant, but at present such animals are sent to reduction works for making fertilizer.

The heat from the combustion chamber is utilized in generating steam in a B. & W. boiler. This steam power is used to run the fan forced draft, and for operating the steam disinfecting plant. A 500 light electric light plant is under consideration.



## NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

### ROADS AND PAVEMENTS

#### Defective Street Accepted at Reduced Price

Altoona, Pa.—A compromise has been effected between Contractors Hagaman, Miller & Hagaman and the city over the paving on Eighth avenue between Twenty-fourth and Twenty-sixth streets, and the concrete which was put down last spring and later condemned will be allowed to remain. The sum of 11 1-2 cents per square yard will be deducted for defective work and the street accepted.

#### Wheel Tax Keeps Streets In Good Repair

Chicago, Ill.—An immense amount of street repairing has been done by Superintendent of Streets M. T. Doherty with the proceeds of the wheel tax which became available last July. Altogether 135 miles of streets, paved with all sorts of materials, have been gone over. The cost has been \$246,000 and more than \$100,000 remains available. It is planned to repair about 25 miles more before winter makes such work too difficult. The general effect of the repairs has been plainly apparent, although, owing to the expiration of guarantees, there are more miles of street to be maintained by the city than ever before.

#### Prefer Bad Road to Autos

Chicago, Ill.—Diversion for the Board of Local Improvements was supplied when residents of Kenwood, appearing to protest against paving Kenwood avenue with asphalt, provided a series of objections unique in the long history of complaints heard by the Board. Among the objections offered were the following:

If the street is paved with asphalt automobiles will use it. Milk wagons will awaken the inhabitants as early as 6 o'clock in the morning.

The Kenwood Hotel wants the street paved.

Why not pave Lake avenue instead? It needs it.

Residents of Kenwood avenue from Forty-seventh to Forty-eighth street want no pavement at all.

Residents from Forty-eighth to Forty-ninth street want macadam.

People who pay for a pavement ought to be allowed to say what kind of material should be used.

#### Record of Year's Paving in Harrisburg

Harrisburg, Pa.—The paving season in Harrisburg has ended with a record of 130,000 square yards, in round numbers, laid on the streets and alleys of the city. The greatest work done was the improvement of Cameron street, from State street to the southern city line, almost two miles, a contract which involved 66,000 yards, including what was put down by the Central Pennsylvania Traction Company. The rest of the work included several smaller streets.

#### To Lay Concrete Foundation Without Mixing

Harrisburg, Pa.—Alderman Walter's plans of laying concrete without mixing it until the stone and sand are laid on the ground has been approved by Common Council, although City Engineer Cowden decided some time ago that the plan was not in accordance with the city's paving specifications. Mr. Cooper introduced a resolution providing that the Walter scheme be tried on the paving work to be done in Mary street.

#### First Creosoted Block Laid in New Hampshire

Manchester, N. H.—The first creosote wood block pavement ever laid in any city in New Hampshire is now being laid on Market street and is attracting a good deal of attention. The blocks, as well as the concrete foundation, are being laid by local labor employed by the city.

#### Stone Paving to be Used Exclusively

Jersey City, N. J.—Mayor H. Otto Wittpenn's administration, tired by the talk caused by the defective wood blocks ordered for some of the repaving jobs, has shut down on any further paving in Jersey City. At a meeting of the Finance Board, President John J. Voorhees announced that no more patented pavements of any kind would be used by Jersey City, and that asphalt also would be rejected on account of the cost of maintenance. Stone blocks, trap or granite will be used exclusively, according to the plans of the officials now in authority. Trap blocks are a local product and are very cheap in Jersey City, at the same time they are more durable than granite. As a rule, the trap blocks are not very accurately shaped.

#### Wood Blocks for Brainworkers

Louisville, Ky.—The Board of Public Works has asked authority from Council to lay the first section of creosoted blocks in Louisville. The new pavement is to be laid on the streets adjoining the City Hall and the Court House. Alex G. Barrett, Chairman of the Board, says that the granite pavement is so noisy that the dispatch of public business is interfered with to a large degree. In fact, in the districts of the city where most of the brainwork and business is carried on the streets are paved with granite.

#### City Might Develop Asphalt Mines

Louisville, Ky.—Chairman Alex. G. Barrett and other members of the Board of Public Works have visited the mines of the Federal Asphalt Company in Grayson County at the request of officials of the Illinois Central Railway. The asphalt company has valuable machinery on the grounds, but is not operating the mines. The suggestion was made that if the city took an interest in the enterprise cheap asphalt for pavements could be secured. Chairman Barrett expressed doubts as to the city having authority to go into a business enterprise of that sort.

#### Board Likes New Paving

Milwaukee, Wis.—After visiting Hammond, Indiana Harbor and Whiting, Ind., the Board of Public Works has decided to try bitumen macadam pavement. The new material consists of asphalt and crushed stone. The pavements are said to maintain a rough surface and can be laid in cold weather, hardening when the materials evaporate. The price is \$1.65 a yard on a six-inch concrete base, while ordinary asphalt generally costs \$2.65 a yard, including the base. The Board will make several trips in the near future to investigate other methods of paving.

#### Repairs Quickly Made

Minneapolis, Minn.—Pedestrians who passed Nicollet avenue and Fourth street recently witnessed some of the most rapid repair work on electric conduits and in the street paving that has ever been executed in the business district. Several short electrical connections were to be made at the intersection of the streets, and the nature of the work necessitated the exposure of the conduits and the taking up of parts of the pavement. The speed was made necessary by a time limit placed on the work by the Street Commissioner, who said the work would have to be done and the street cleared and ready for traffic in ten hours. Plans for the work were carefully laid before operations were begun, for to gain the speed everything had to be done with precision. At the end of the ten hours the connections had been made, the asphalt paving was resumed and the street open for traffic.

#### Would Receive Bids for All Kinds of Paving

Seattle, Wash.—A. V. Boullon, Chairman of the Board of Public Works, is opposed to the present method designating a single kind of paving material for a certain street and calling for that kind alone. He thinks that if bids were received for all available kinds of paving that lower prices would result. Under the system proposed, the Board of Public Works would select the kind of paving after bids were received. At present Council designates the kind of pavement.

#### For Gettysburg Boulevard

Washington, D. C.—Representative D. F. Lafean, of Pennsylvania, has announced that he will introduce at the next session of Congress a bill providing for the construction of a boulevard reaching from Washington to the battlefield at Gettysburg. The road, as planned, will cost the Government \$7,000,000, and it is proposed to make it a National memorial to Abraham Lincoln, in celebration of the martyred President's 100th birthday anniversary. Mr. Lafean says the proposed boulevard meets with the approval of President Roosevelt, the Lincoln Memorial Association and scores of members of Congress.

#### Signs on the Sidewalk

Washington, D. C.—Corporation Counsel Thomas has rendered an opinion to the District Commissioners, in which he holds that warrants should be issued for the arrest of storekeepers with signs in front of their establishments, which are looked upon by the police as dangerous to life or limb or as being obstructions to travel.

### SEWERAGE AND SANITATION

#### Baltimore Outfall Sewers Completed

Baltimore, Md.—Three sections of the outfall sewer which will carry the sewage of the city to the disposal plant at Black river have been completed and accepted by the Sewerage Commission. The sections were all completed about four months ahead of contract time.

#### New Sanitary Regulations in Schools

Indianapolis, Ind.—Hereafter all children will be required to furnish their own drinking cups at school. A method will be arranged for keeping all the interchangeable objects used by the children separate. It has been the custom to collect the pencils, pens and some of the books after they have been used, but this plan will be abandoned.

#### Public Health Day Set Aside

Nashville, Tenn.—Following a conference between State Superintendent of Public Instruction R. L. Jones and Dr. J. A. Albright, Secretary of the State Board of Health, the first Wednesday immediately preceding Thanksgiving Day (Nov. 25) will be set aside as Public Health Day, and will be observed in all the public schools in Tennessee.

#### Health Officer Prepares Bakery Ordinance

New Orleans, La.—City Health Officer W. T. O'Reilly has completed a draft of a bakery ordinance dealing with sanitation about these places which he will submit to Council. At present the city has no ordinance regulating bakeries. Among the proposed regulations is one governing lavatories, the use of tobacco and expectoration on the floor is prohibited; no domestic animals, except cats, will be allowed on the premises; ventilating, the height of ceilings and number of windows will be regulated.

#### Can't Put Refuse Into River Sewer

Owego, N. Y.—The Owego Gas Company has been ordered to discontinue using the village sewers for its gas plant refuse. Should the company fail or refuse the Village Attorney has been ordered to begin legal action. Coal tar, etc., has been allowed to enter the river for several years, and questions have been asked if this was not liable to kill the fish.

#### Sewers Completed and Projected in St. Paul

St. Paul, Minn.—The city is in the peculiar position of having the means at hand for financing more sewers than it wants. Two years ago the Legislature authorized the issue of \$500,000 bonds to aid in the building of new sewers. With this the Portland-Aldine, the Jefferson-Hamlin and some minor systems have been built or are approaching completion. Almost \$50,000 could be used for arching over Phalen Creek, which is practically an open sewer and will become a nuisance in a few years if it is not so considered already. Still about \$50,000 bonds will remain unused, and the right to issue them will expire with the end of this year.

#### For the Aid of Physicians

Washington, D. C.—As a means of aiding physicians in diagnosing typhoid fever in its early stages, and also to determine when persons who have the disease are no longer a menace to the health of the public by discharging typhoid bacilli, Health Officer Woodward has recommended to the Commissioners that his department be provided with a special laboratory. It is his intention to permit physicians to use this laboratory without cost. He estimates that the cost of it will be \$350, and in addition to certain apparatus it will be necessary to employ an assistant bacteriologist to work in the laboratory, whose salary should not be less than \$125 a month.

### WATER SUPPLY

#### Baltimore System to Include Filtration

Baltimore, Md.—As plans for the \$5,000,000 water system gradually take form the probabilities for Baltimore having a filtered water supply are increasing. Water Engineer Quick says that unless the cost of building the reservoir exceeds the highest estimates a sufficient sum will be left for a simple and comparatively inexpensive filtration system. It is the purpose also to generate electric power at the dam, but no definite estimates of the power available have been made. Former City Solicitor William C. Bruce, who drew the enabling act, says that the city can only build a reservoir at the Gunpowder River. The suggestion that water might be brought from the Susquehanna River cannot be considered.

#### Dayton High Service System Expensive

Dayton, O.—For a period of 10 months it has cost the city of Dayton nearly \$3,000 more than the receipts from the sale of water to operate the Linden avenue high pressure system. The cost of power for operating the electric pumps at the station is the main item of expense. There are but 455 services supplied by the station. The Board will try to get the charge for power reduced.

#### Impure Water in Old Reservoirs

Dover, N. J.—Analyses of samples of water taken from Dover's several reservoirs revealed the presence of bacilli coli in the water contained in the two older reservoirs, which are supposed to collect clear spring water. As a result the local Board of Health, at whose instance the tests were made, has directed Secretary J. H. C. Hunter to notify the Board of Water Commissioners to shut off the supply from the two reservoirs until further notice.

#### Evidence of Value of Water Plant Compiled

Fort Smith, Ark.—Evidence regarding the value of the local water works has been compiled for the suit of the City vs. Municipal Water Company. Excluding certain items of real estate and buildings, the estimates made by the engineers are as follows:

	Plant.	Going Value.	Franchise Value.
For City.			
Kiersted .....	\$343,663	\$42,000	.....
Huston .....	338,875	.....	.....
For Company.			
Alvord .....	359,958	52,000	\$50,000
Fenn .....	366,602	64,700	51,000



### Extension of Water Franchise Held Up

Indianapolis, Ind.—The contract made by the Board of Public Works with the Indianapolis Water Company for a 10-year extension of its franchise has been held up by Mayor Bookwalter in order to give public hearings on the question of domestic rates. The Commercial Club, through Chairman C. C. Brown, of its Water Commission, will investigate the proposed schedule and give citizens an opportunity to express their views. Besides the matter of domestic rates, there is a provision regarding hydrants that might be modified. The city may install a high pressure fire system of pipes downtown, in which case the water company's hydrants will be of little or perhaps no value. The company can insist on the hydrants being maintained at intervals stated in their contract as a source of revenue on their investment in pipes.

### Water from City in Another State

Kansas City, Kan.—If the city now owned its water plant clear water could be purchased from Kansas City, Mo., and the people of the Kansas metropolis would not be forced to use the muddy water being furnished them by the Metropolitan Water Company. The settling basin of the company's plant at Quindaro is not large enough to supply the demand, and water must be pumped out of it before it has time to settle. When the Missouri River is high there is more mud in the water, and a longer time is required to filter it. When the city secures the plant, which it is now trying to do, it proposes to at once enter into a contract with Kansas City, Mo., by which pure water can be secured until it can equip its own plant or join with Kansas City, Mo., in a new plant. Argentine has made a contract with Kansas City, Mo., and expects to purchase its present plant, which Rosedale has secured its water from there for several years.

### State Health Board Favors Slow Sand Filtration

Lynn, Mass.—In an eight-page communication to the Mayor and the Lynn Water Board, the State Board of Health explains its reasons for approving the plans of the Public Water Board for the establishment of a system of slow sand filtration and the improvement of the Lynn water supply. Briefly, it considers that plan A, suggested by the Lynn City Council, would be too expensive; that the cost of enlarging Breed's Pond for storage would be large, while the results obtained would not be of material advantage. The Board says that it has long been known that ozone would reduce the number of bacteria, but that if it was used it would require a system of filtration to reduce the color and odor of the water such as is used by Lynn, and furthermore, its efficiency wholly depends upon constant electric power and expert supervision. The Board favors plan B, which is practically that of the Water Board.

### Manila Has New Water Supply

Manila, P. I.—Manila's new water system, constructed during a period of three years, at an outlay of \$2,000,000, is completed. The water was turned on November 12 at the source of supply in the Mariquina Valley and sent coursing on its 20-mile journey to the city. At the invitation of the municipal authorities Governor-General Smith turned the wheels which operate the dam gates, and for the first time the city mains were filled from the new supply.

### Springfield Rushes Work on Dam

Springfield, Ill.—The dam which is being built across the Sangamon River for the use of the Water Works Department of the city will be completed within two weeks or so. The dam is of concrete construction and will greatly aid the water supply for the city. At present the river is at a very low stage and most of the water being used comes from drive-wells. The work on the dam is being rushed as rapidly as possible in an effort to get it done before high water comes.

### Wants Trolley Company to Replace Water Mains

Newark, N. J.—Negotiations are being carried on by Chief Engineer M. R. Sherrerd, of the Board of Works, with the Public Service Railway Company looking to an agreement regarding the problem of electrolysis of water mains. Action is based on a report of William E. Foss, Boston, Mass., on the results of a long investigation. The damage is due mostly to the return current to the River street power house. This can be avoided by the use of insulated return circuits. In some places Mr. Foss advises the use in the pipe lines of insulation joints made of wood. The practice of connecting underground structures to the railway returns so as to keep them negative to the ground and to each other with a view to preventing electrolysis is condemned as unsatisfactory and dangerous to householders and others. Basing his estimate on Mr. Foss' figures, Mr. Sherrerd calculates that it will require about \$5,000 to replace the damaged pipes, and he is seeking to have the Public Service Company pay the cost as well as to have it agree to pay for future renewals that may become necessary from the same cause. The company does not wish to prejudice its right pending a suit now before the United States Supreme Court, where a similar point will be decided in a case between the Peoria Water Company and the Peoria Traction Company.

### To Plant Pines on City Watershed

Pittsfield, Mass.—Frank W. Rane, State Forester, with City Engineer Farnham, paid a visit to the city's watershed to inspect the forestry and make recommendations. They reported to the Committee on Reforestation that there were about 400 acres of the city watershed which need reforestation. There are about 215 acres of Mill Brook, 130 on Sackett, 20 on Hathaway and 60 acres about the two Ashley reservoirs. The committee will probably recommend to the City Council that \$4,000 be appropriated to purchase and set out 400,000 white pine seedlings at a cost of \$10 an acre.

## STREET LIGHTING AND ELECTRIC POWER

### Municipal Lighting Plant Ready for Competition

Cleveland, O.—For the first time in years the Cleveland Electric Illuminating Company will not make a cut in its price when its contract with the city for another year of street lighting service becomes effective; the company's bid on the new contract opened by the Service Board is the same as the present rate, \$54.96 per lamp. "This rate is a cut of \$13 from the price which prevailed the year before," said President Springborn, "and in every preceding year since the present administration has been in office there were cuts in the price to the city for street lighting service. The municipal lighting plant at South Brooklyn met the cut last year. The rate we charged to the city for street lamps was the same as the illuminating company's rate. If the company had made another cut we would have done the same. If they would have given the lighting service to the city free of cost we would have done the same."

### Will Light Streets with Nernst Lamps

Fort Worth, Tex.—The light question has at last been solved by the City Commission, and 600 Nernst lights have been ordered and will be placed along Main street and in other sections of the city. In addition to the Nernst lights an arc light will be placed on every corner. Bids will be received until January 15 for arc lights and other lights.

### Town Sells Lighting Plant

Grandledge, Mich.—Municipal ownership has been found a failure here. At a special election the village voted to sell its electric lighting plant to the Commonwealth Light and Power Company, of Jackson. The vote was 327 to 96 in favor of the proposition. The village will buy power of and be lighted by the Commonwealth company.

### Wants Citizens to Report Lights Out

Leavenworth, Kan.—Commissioner O. P. Lambert, who has charge of the Department of Street Lighting, has asked the citizens to assist him in watching the gas and arc lights about the city. The police report lights out whenever they notice them. If citizens would telephone whenever they see a light out it would give the lighting company an opportunity to fix the light at once, and citizens would have the benefit of the illumination.

### City Engineer Reports on Poles and Wires

New Bedford, Mass.—City Engineer William F. Williams has made an exhaustive report on the conditions of poles and wires within the city, together with a review of the statutes defining the power of the city authorities to regulate such matters. The report is to the effect that both poles and wires are in bad shape and that the officials have very limited power to better the conditions. Mr. Williams thinks that some consolidation of wires on a single large pole line might be possible, but that ultimately all wires will have to be placed underground. These conduits should be designed for the joint use of all companies. The ideal method of carrying out such a plan would be by municipal ownership, but such a plan is impossible without special legislation.

### Tungsten Lamps for Riverside Drive

New York, N. Y.—Chief Engineer Lacombe, of the Department of Water Supply, Gas and Electricity, is installing Tungsten lights along Riverside Drive. The old posts which connect the naphtha lamps previously used will be used for carrying the new lights.

### Syracuse Boasts of Street Lighting System

Syracuse, N. Y.—When the improvements to the street lighting system now under way are completed Syracuse will be one of the best lighted cities in America, says Superintendent M. K. Kennedy, of the Syracuse Lighting Company. The company is now installing new magnetite lamps throughout the city and by January expects to have 1,500, as well as new wiring and hanging apparatus on the streets of Syracuse. Instead of the double wire feed from the pole of the lamp, there will be but one duplex cord carrying the current, and the arm from which the lamp is suspended will be of a more serviceable and ornamental design. The poles are being provided with counterweights to keep the lamps in the air if anything should give way.

## FIRE AND POLICE

### Police Force Attends Court

Galveston, Tex.—Complaint is made of the disorganization of the Police Department, due to the sessions of the criminal district court in Galveston. It means that nearly every member of the department will have to do double duty at least a few days and nights of the month during which the sessions are held.

### Milwaukee Policemen Wear New Hats

Milwaukee, Wis.—Milwaukee "coppers" have donned for the first time their new winter hats. The hats are the regulation uniform kind, adopted by the New York police. It is of dark blue uniform cloth, with a visor of patent leather. In the front is an oval shield, inscribed "Police Department," with the precinct number in patent leather. A patent leather band extends about the front and is caught at each side by brass buttons. Thin double lines of blue cord also form a distinctive feature. The hats of the patrolmen resemble those of the officers with few exceptions. Sergeants' hats have gold cords instead of the patent leather bands. Their shields are inscribed with abbreviations denoting their rank. Lieutenants and higher officers have similar shields, but one of the double blue cords is replaced by gold braid caught at the sides by gold stars.

### Police Rules for Montgomery

Montgomery, Ala.—The Police Commission has adopted rules and regulations, which have been printed and a copy supplied to every policeman. The rules number 121 and contain over 5,000 words.

### Police Appropriation Increased

New Orleans, La.—The proposed increase in the police appropriation of \$60,000 is very gratifying to Inspector W. J. O'Connor. The motor cycle squad will be greatly increased and possibly the mounted force may be reduced, as the motor cycle men can reach places much quicker, and besides are useful in enforcing the speed regulations. About fifty new patrolmen can be added to the force, but there will not be any additional ranking officers. A third police matron will probably be appointed and assigned to the Jackson Square station. The equipment is also to be improved.

### Use of Fireworks Regulated

North Fort Worth, Tex.—The City Council has instructed the city attorney to draft an ordinance prohibiting the setting off of fireworks of any kind within one block of Main street. The motion was carried unanimously, and is intended to forestall the Christmas celebration, but it is aimed particularly at the custom of placing torpedoes on the street car tracks.

## GOVERNMENT AND FINANCE

### Reforms for Assessing Department of Boston

Boston, Mass.—The report of the Finance Commission on the Assessing Department forwarded to the Mayor and City Council finds considerable fault with the manner in which the work is conducted and the cost, and makes several recommendations, chief among which is that the coming year the expenses be cut from \$195,000 to \$135,000. Among the important recommendations are that the number of principal assessors be reduced from nine to five, and that their salaries be cut from \$4,000 to \$3,500 per annum, with the usual \$500 and \$200 additional for the Chairman and Secretary; that the offices of second assistant assessors, of which there are forty-six, be abolished, with a saving of \$9,000 a year; that less expensive help be employed on single poll-tax work and that the payment of poll taxes be more vigorously enforced. The Commission arraigns the department for the cost of its work, the employment of obsolete methods, the unnecessary duplication of records and other expensive shortcomings which, in its opinion, ought to have been remedied long ago.

### New Form of Administration for Cambridge

Cambridge, Mass.—Some sweeping changes in the method of administering the city government have been proposed by Prof. Joseph H. Beale, Jr., a member of the Board of Aldermen. The government as proposed would consist of a Mayor and six members of an advisory board and Council. Three members of this Council would be appointed by the Mayor; the other three would be the chairmen of three subsidiary boards of three members each. These subsidiary boards would be known as the Board of Public Works, the Board of Public Safety and the Board of Public Property. The Board of Public Works would consist of the City Engineer, the Superintendent of Streets and the Superintendent of Sewers; the Board of Public Property would consist of the City Auditor, Superintendent of Buildings and the Inspector of Wires; the Board of Public Safety would consist of the Commissioner of Public Safety, the Chief of Police and the Chief of the Fire Department. There would also be the Board of Overseers of the Poor, Board of Health, and Park Board. The Water Works would not come under one of the executive boards, but ranked under the general heading of city enterprises and trusts, and would be governed by a Water Board as at present.



### Haverhill Charter Declared Constitutional.

Haverhill, Mass.—The new municipal charter, establishing a so-called commission form of government, with non-partisan elections, has been declared constitutional by the Supreme Judicial Court of Massachusetts. The petitioners claimed that the charter was unconstitutional in that it deprived all the inhabitants of equal right to be elected to office, but the court ruled that a blank space left on the ballot reserves all rights, in that a person desiring to be elected may have his name inserted. The court further said:

The statute enacted in this case does not assume to give to the voter the right to vote the same as to the voters in some other cities, but it does give to the voter the right to vote in the manner prescribed by the Legislature and as adopted by a majority of the voters. The requirements of this act are not unreasonable, nor do they deprive any inhabitant of his right to elect officers or to be elected.

### Ordinance Provides for Competitive Purchases.

New Bedford, Mass.—The Council Committee on Ordinances has recommended for passage an ordinance requiring that competitive bids be received by the head of departments for all supplies or repairs to buildings exceeding in amount \$50. Provision is made for cases of emergency when a purchase may be made without competition, and the bill will be audited if a certificate describing the nature of the emergency is attached. If the purchase exceeds \$500, the advertisement will have to be in the newspapers or by circular letter in sufficient number to insure competition.

### Wants New Charter Like That of Newport.

Newburyport, Mass.—A meeting was held for discussion of the provisions of a new city charter. The charter of the neighboring city of Gloucester, as well as those of Haverhill, Des Moines and several Texas cities were discussed. General opinion, however, favored the Newport, R. I., charter, which provides for a small executive board and a large representative body to pass on appropriations, and in general keep the people in closer touch with their municipal government.

### Mayor Would Invite Citizens to Discuss Budget.

Utica, N. Y.—As there will necessarily be a large amount of work in connection with the preparation of next year's budget, Mayor Thomas Wheeler has suggested that the Board of Estimates and Apportionment arrange for daily sittings, commencing at an early date. He also suggests that at all meetings of the Board in connection with the budget the public be cordially invited to be present and make suggestions or participate in the discussion of the spending list for municipal purposes for next year.

### Mayor and Council Before Court

Wilkes-Barre, Pa.—At the opening of the trial of Mayor Lewis P. Kniffen and thirty-two of the City Councilmen, charged with maintaining a nuisance by their refusal to keep in repair the principal streets of the city, the court rooms were crowded with leading citizens. As soon as the indictment was read, City Solicitor McHugh moved that it be quashed, on the ground that the Mayor and Councilmen could not be indicted as individuals, but that the municipality could be indicted. Judge Ferris announced that he would like to hear arguments on the disputed point before giving a decision and he ordered that the case go over until January.

### Taunton May Adopt New Charter

Taunton, Mass.—Voters and politicians agree that the time is not far off when this city will be under the control of a Commission, doing away with the time-honored Board of Aldermen and Common Council, which, it is claimed, have proved ineffective here in years past. The past year is held as an example. The entire year has been marked with little advancement. Funds for the many different de-

partments have not been available. Street Department work has been again and again forced to cease simply because there was not money forthcoming with which to carry on the work. The failure of both branches to provide or furnish anything really needed by the citizens in general, has stirred the voters as they have never been stirred before.

### REFUSE COLLECTION AND DISPOSAL

#### Urge Incineration of All Classes of Refuse

Boston, Mass.—After a long investigation into the methods and cost of gathering the refuse of the city, the special Garbage Commission has made its report to Mayor George A. Hibbard. "The present methods of disposing of ashes and other refuse which accompanies them are most unsatisfactory," the report says. "A single collection of all classes of refuse would be more convenient and less expensive than the present system of final disposal of garbage, ashes and combustible waste in different ways and by separate collection. The most satisfactory method of disposing of garbage, ashes and combustible waste is by incineration; incinerators should be maintained in various parts of the city; if incineration is not adopted for the whole city, then the city should proceed at once to establish one incinerating plant, others to follow in time." Members of the Board of Health have expressed their entire approval of the report.

#### Street Cleaners to Wear Khaki

Boston, Mass.—Boston's small army of street sweepers is aroused by an announcement made at Superintendent Emerson's office that they will be obliged to appear in full uniform while on duty, and that they must purchase the new outfits at their own expense. The new uniform will be of khaki coat and trousers, with a cap to match, and will cost in the vicinity of \$4. By having the men uniformed the Superintendent believes they will be more apt to work and it will be easier to detect them if they do not work.

#### Plans Accepted for Ashes and Refuse Stations

Brooklyn, N. Y.—Plans for the refuse dumping stations to be erected by the Interborough Construction Company for the purpose of shipping ashes and refuse out of the city have been approved. This company last summer secured the contract, which had appeared to be a monopoly of the Rapid Transit Company, which concern had raised its price from 35 cents a cubic yard to 54 cents. The new contractor will build sixteen stations, seven to be located on the line of the Long Island Railroad, six along the water front and three in the central section of the borough. From the three central stations material will have to be carted a second time to one of the other stations.

#### Must Abate Odors from Garbage Plant

Harrisburg, Pa.—As a result of a petition of 100 railroad men who work in the vicinity of Carlile & Martin's garbage plant, the sanitary committee of Council has ordered the contractors to abate the nuisance. This petition was first sent to the State Commissioner of Health, Samuel G. Dixon, who referred it to the City Council. It was stated by Sanitary Officer Block that the odors were worse at the times when the big vats are blown out.

#### Fines If Paper Is Loose on Streets

Philadelphia, Pa.—Council's Highway Committee has agreed on an ordinance which, if passed by Councils, will make every householder liable to a fine of \$5 if waste paper and other light materials are not placed in separate receptacles from ashes. Director of Public Works Stearns and Chief Benson, of the Bureau of Highways, have given their sanction to the ordinance, the object of which is to prevent the waste paper and other house refuse from being blown about the streets. The ordinance will go into effect after January 1.

## RAPID TRANSIT

## New Plan to Finance Subways

New York, N. Y.—A new plan for financing the building of subways has been advanced by Joseph Caccavajo in a communication to Chairman W. R. Willcox, of the Public Service Commission. Mr. Caccavajo's plan is to have the residents along a projected route subscribe the funds for construction, pro rata. He then argues that when the subway is completed the increase in real estate valuations will permit the city to refund the money advanced by the taxpayers and will show a handsome profit in the increased worth of their land over and above the amount advanced to the city. That the plan is not impracticable, the example of the Berlin, Germany, subway, which is owned and operated by a company, was cited. In that case, instead of the city paying for the construction of the subway to develop a vacant suburban section, the persons who furnished the money for the construction sought the undeveloped country and hope that the increase in its value will assist in the paying for construction cost. To show how the city could ultimately acquire the line, Mr. Caccavajo mentions as an example one of the lines laid down on the tentative plans running from Third avenue and Fifty-ninth street, Manhattan, over the Queens Borough bridge to Little Neck, a distance of thirteen miles. It has been estimated that this line will cost to construct and equip not more than \$13,000,000. As the value of the land along the line will increase at the lowest calculation \$200,000,000 the city will be enabled to sell bonds to the amount of 10 per cent. of this increased assessed valuation, or \$20,000,000. It will be seen that this will not only be sufficient to purchase the road, but will allow enough money for many other needed improvements.

## Monorail Road Gets Franchise

New York, N. Y.—Construction of the first monorail road in any municipality in the United States has been authorized by the Public Service Commission. Mr. Burrows, President of the Monorail Construction Company, said he was ready to begin the construction of the road to City Island as soon as he received a permit to do so.

## New Style Ticket Is Withdrawn

Philadelphia, Pa.—The Philadelphia Rapid Transit Company got into serious difficulties through the introduction of a new style of six-for-a-quarter ticket which could be used only by the buyer. The public protest was so strong that within a week the limitation was withdrawn. The purpose of the innovation was to compel the public to pay five-cent straight fares. There is now danger that the Transit Company will be thrown into the hands of a receiver, owing to the unpopularity of its management.

## Railroads Must Deal with District Commission

Washington, D. C.—The Interstate Commerce Commission has declined to receive any evidence from the Brightwood Railway Company and the Washington Railway and Electric Company, except such as is put before the District Railway Commission, a ruling which applies to all railway companies in the District. This action is intended to force the railroads to recognize the District Commission.

## Yonkers Orders Car Lines Off Streets

Yonkers, N. Y.—The Corporation Counsel has notified Mr. Sutherland, receiver of the Yonkers Railroad Company, to cease the operation of cars in the city. The lines affected are the Elm and Walnut Street complete and parts of the South Broadway, Nepperham Avenue, Yonkers Avenue, Bronx River Road and Park Avenue lines. Council passed a resolution directing the Corporation Counsel to take this action and Mayor Warren gave his approval. The action for the forfeiture of the franchise will include suits for the collection of \$200,000 back taxes and the removal of tracks from New Main street.

## MISCELLANEOUS

## Twenty Killed in Sewer Cave-in

Brooklyn, N. Y.—A cave-in and explosion occurred at the 13.5-foot brick and concrete sewer under construction in Gold street, between York and Front streets, on November 20. The trench at the scene of the disaster is about fifty feet deep and the cut extends from curb to curb. Just what happened is not known and perhaps never will be. Some carpenters employed on the shoring, who made their escape through a sewer, state that they first noticed the shoring give way and that the explosion followed. At any rate, a 12-inch gas main was broken and the gas began to burn at both ends. The shoring and planking over the cut were burned. A large water main was also broken. The work of rescue of the twenty persons who are supposed to have been caught in the trench was delayed by conflict of authority among the various departments of the city government and the contractors interested in the work until Mayor McClellan arrived on the scene and placed Sanitary Superintendent Walter Bense in charge. The sewer was being built by Rogers & Haggerty. The Edison Electric Company and the Brooklyn Union Gas Company owned underground structures in the trench.

## To Plan for City Growth

New York, N. Y.—The Committee on Congestion of Population has asked the Charter Revision Commission to provide for the future growth of the city in a new charter by laying out some sort of a systematic plan for streets and buildings in new sections, as is done in Berlin. The plan recommended is that drawn up by a commission when Berlin decided to add to itself 478,342 acres. It provides not only for streets and railroads of all kinds, but for the proper and symmetrical distribution of industrial quarters, manufacturing quarters, commercial quarters and residential quarters; the reservation of certain areas for parks, lakes and cemeteries, and for the proper location of all public buildings, including theaters, schools, churches and hospitals. The committee states that "although any attempt to enforce in the congested areas of Manhattan all the regulations which should be enforced in most sections would work injustice to economic interests, yet to permit conditions now existing in lower Manhattan to be duplicated throughout other boroughs would be well nigh a crime."

## Color Map of City's Trees

Cleveland, O.—Blue catalpas, orange sycamores, yellow ailanthus and green maple trees will be indicated on a tree map that the City Forestry Department is about to issue, showing the general tree planting scheme it has in view for the entire city. Every residence street in the city will be marked with a color denoting the kind of tree already planted there or to be planted. When a tree planting permit is applied for the map will be consulted by employees in the department to see if the kind of tree the applicant desires jibes with the general scheme mapped out for the neighborhood. The map shows that sycamores are to be used freely in the East Side planting, together with maples. In the smoke belt the hardier varieties will be used. The streets upon which there are no tree lawns are marked with a jet black streak on the new city map.

## Annual Report to Be Well Illustrated

Washington, D. C.—The Commissioners' annual report will be illustrated this year. Illustrations are being prepared of school buildings, fire and police stations, bridges, roads, streets, trees, sewers and other work in course of construction. Major Jay J. Morrow, Engineer Commissioner, who suggested the idea, argued that the report, if illustrated, would be more interesting, more widely read and better understood. The report will probably contain 200 photographs and 50 drawings.



## LEGAL NEWS

## Summary and Notes of Recent Decisions—Rulings of Municipal Interest

## SURFACE WATER—CHANGE OF COURSE

**Field vs. Gowdy.**—An owner may alter the course of surface waters by changing the surface of his land or improving it by the construction of buildings, or by other means in any lawful manner. An owner, collecting surface water into a definite channel and pouring the same on a public highway where the water freezes, creates a nuisance, and he is liable for the damages ensuing as a probable consequence. Where an owner collected surface water in an artificial course and poured it on a sidewalk, where it froze into a ridge, the fact that there was a gully in the sidewalk into which the water flowed and froze, and that but for the defect the water would have run off, did not prevent recovery from the owner for injuries to a pedestrian slipping on the ice, provided the owner, in the exercise of ordinary prudence, had notice that the water, in conjunction with the defect in the walk, would produce a dangerous condition.—Supreme Judicial Court of Massachusetts.

## SEWER CONTRACT—DIVISIBILITY

**Uvalde Asphalt Paving Co. vs. City of New York.**—A contract for the construction of a sewer and its appurtenances and of a sewage disposal plant is divisible, so that the provision for the sewer and its appurtenances can be sustained, though the provision for the disposal plant is void, where the municipal authorities intended to have the two improvements separable, where the advertisement soliciting bids stated that "contracts" would be let, where, when the bids were received the aggregate for each bid for the sewer was kept separate from the gross sum for constructing the disposal plant, and on striking everything pertaining to the disposal plant a complete contract for the sewer is left.—Supreme Court of New York.

## ORIGINAL CONSTRUCTION DEFINED

**Sparks et al. vs. Barber Asphalt Paving Company.**—A city, ordering the grading and paving of a street, a part of which had been improved by an abutting owner at his own cost on his own initiative, orders the original construction of the street, and the abutting owners may be taxed for the cost thereof. A street is not "constructed," within the law authorizing the original construction of a street at the cost of abutting owners, until its construction is prescribed by the city authorities.—Court of Appeals of Kentucky.

## DEFECTIVE SIDEWALKS—NOTICE

**Falldin et ux. vs. City of Seattle.**—A notice of claim against a city for personal injuries resulting from a defective sidewalk, reciting that on a certain date plaintiff "fell through said sidewalk, owing to its defective condition, into a hole thereunder about seven or eight feet deep, and sustained," etc., "injuries," was sufficient as against the contention that it only attempted to describe the hole under the sidewalk, and not the defect in the sidewalk itself.—Supreme Court of Washington.

## EXCAVATION UNDER STREET—INJUNCTION

**City of Hoboken vs. Hoboken & M. R. Co. et al.**—Equity will not enjoin railroad companies from excavating under land claimed by complainant city to constitute parts of streets, where it appears that as to one of the tracts the work is finished, that ejection involving it is pending, and that the city was restrained from interfering with the work, and as to the other tract the travel is not seriously obstructed, the work is partly completed, and to stop it would endanger the whole place; the improvement constituting a great public work, sanctioned by two States.—Court of Chancery of New Jersey.

## STREET OBSTRUCTION—INJURY TO FIREMAN

**Kenyon vs. Chicago City Railway Co.**—In an action for injuries from obstructions placed in a street by defendant, it appeared that plaintiff was a Battalion Chief of the Fire Department of the city, and at the time of the injury he was responding to a fire alarm, and was driving at a speed of nine or ten miles an hour along the side of a street railway track, striking an obstruction maintained by defendant at the side of the street. An ordinance of the city provided that no person should drive at a greater speed than six miles per hour. Held, that the question of plaintiff's negligence was for the jury.—Supreme Court of Illinois.

## SIDEWALK ACCIDENT—NOTICE—NEGLIGENCE

**Neeley vs. Town of Mapleton.**—A written notice of injury to a pedestrian on a defective sidewalk, which conveys the required information, so that the town authorities are not prejudiced by the absence of a signature to the notice, is sufficient without a signature. A notice of injury to a pedestrian, which stated that the injury was sustained by reason of "a fall on a defective sidewalk, said fall having seriously cut and bruised" the pedestrian, and which specified the time and place of the accident, sufficiently stated the circumstances of the injury. A pedestrian who knows of the defective condition of a sidewalk, and who has passed over the same many times in safety, and who believes that she can do so again, is not guilty of contributory negligence as a matter of law in so doing.—Supreme Court of Iowa.

## ANIMALS AT LARGE—PROOF OF ORDINANCE

**Stone vs. Town of Tallulah Falls et al.**—Under the general welfare clause of the charter of the town of Tallulah Falls, acts of 1880, that municipality has power to enact an ordinance prohibiting the running at large of hogs within the corporate limits. In a suit against a municipality to enjoin the enforcement of an ordinance, where the plaintiff serves the municipality with notice to produce its book of ordinances, and the book is produced under notice, inspected by the plaintiff, and so much of the book as contains a certain ordinance is offered in evidence by the plaintiff, it is the right of the defendant to offer in evidence the book to prove any other ordinance therein which may be relevant. The inclusion of the ordinance in the book of ordinances is prima facie evidence of its proper passage.—Supreme Court of Georgia.

## TAXATION—EXEMPTIONS—CEMETERIES

**In re Jerome Avenue, New York City.**—Laws of 1879 forbid the levy, collection or imposition of any tax or assessment upon land actually used for cemetery purposes, and whenever any land shall cease to be used for cemetery purposes, any assessment which would have been imposed shall thereupon become a lien upon the land. Held, that the provisions were conflicting, and no valid assessment against land used for cemetery purposes could be made, and hence a commissioner's report of assessments for benefits and damages should not state the amount which they would have imposed upon cemetery land, if they were empowered to assess them.—Court of Appeals of New York.

## STREET OPENING—JURISDICTION

**Stoner et al. vs. City Council of City of Los Angeles et al.**—The court will take judicial notice of the provision of the charter of a city that its Council shall meet at least once a week. A City Council having failed to take action at the next regular meeting after expiration of time for filing objections to an assessment for opening a street, either by hearing the objections or adjourning the hearing, as required by Street Opening Act of 1903, it lost jurisdiction to act in the matter, except on republication, as in the first instance, of the notice, under section 18 of the filing of the assessment.—Court of Appeals of California.

## ACCIDENT—OPEN DITCH

**Parker vs. City of Bedford.**—In an action against a city for injuries from falling into an open drain in the street, under the city's general denial, plaintiff had the burden of showing negligence in failing to maintain its streets in a reasonably safe condition.—Supreme Court of Iowa.

## VACATED ALLEY—PAVING

**Bradley vs. City of Centerville.**—Where an alley was duly vacated by a city ordinance, it ceased to be a public way, and, if it thereafter continued open to the use of the public, it was a matter of sufferance only, not affecting the result of the vacation. Where a City Council was wholly without power to order the paving of an alley at the expense of abutting owners, its proceedings for that purpose were void, and a property owner was not estopped to assert the invalidity of the assessment by the fact that, being a resident of the city and having knowledge of the proceedings, he did not protest until notified of the assessment.—Supreme Court of Iowa.

## VACATION OF ALLEY—COMPENSATION

**Ridgway vs. City of Osceola.**—The discontinuance or vacation of a street in such a manner as to prevent access to the property of an adjoining owner is a "taking" of property within the constitutional inhibition, and cannot be lawful without compensation to such owner.—Supreme Court of Iowa.

## NEWS OF THE SOCIETIES

**League of North Carolina Municipalities.**—At the meeting of the League, Charlotte, November 17-18, Mayor T. S. Franklin, of Charlotte, was elected president. The other officers are: Vice-presidents, A. H. Boyden, of Salisbury; William E. Springer, of Wilmington; James I. Johnson, of Raleigh; W. D. Larogue, of Kinston; Mayor Bullard, of Fayetteville, and George A. Rose, of Henderson; secretary and treasurer, Thomas D. Meares, of Wilmington. The subjects discussed at the meeting were as follows:

Should there be an amendment to State Constitution divorcing cities from counties and making them independent?

Should cities have courts with greater jurisdiction?

Should there be an amendment to our State Constitution allowing cities courts?

Should we have a standardization of charters for all towns and cities in North Carolina?

Are our schools best managed by a Board of Trustees elected by the people?

What disposition should be made of youthful criminals?

Should we work our prisoners on the streets?

Are market houses a success in North Carolina?

Are our present State laws satisfactory for the assessment of property and the collection of taxes?

Is a license tax a success?

**Western Society of Engineers.**—At the regular meeting, Chicago, Ill., December 2, Carl Scholz will read an article on "Coal Briquetting." On December 11 C. E. Freeman will read a paper before the electrical section on "Some Phases of Hydro-electric Development in the Northwest." On December 16, at an extra meeting, M. D. Pense will read a paper on "The Work of the Engineering Staff of the Wisconsin Tax and Rate Commission." The annual meeting will be held Jan. 5.

**Metropolitan Improvement League of Brookline, Mass.**—The following officers were elected at the fourth annual meeting of the Metropolitan League, held at the St. Botolph Club: C. Howard Walker was elected president; Sylvester Baxter, secretary and treasurer, and Henry Lefavour, George Howland Cox, W. W. Churchill, James B. Noyes and Frederick Law Olmsted, Jr., executive committee.

**City Club of Cincinnati, O.**—At a recent meeting of the club E. F. Layman, former head of the City Sewer Department, presented the report of the committee on sewers. He reviewed the history of the construction of the city sewers, describing the drains built of rough limestone still in use. Most of these are now in bad condition, some are stopped up at one end, and one is stopped at both ends, so that many of them are nothing but cesspools. The older trunk sewers of the city are built according to formulæ now abandoned as making insufficient allowance for heavy rainfalls. The consequence is that during violent storms many cellars are flooded. There are also many private sewers which are a constant expense to the city, are inadequate for their work, yet block the way of proper improvements, as they let property owners escape assessments. Lately, however, the court has been more inclined to uphold the city in constructing new sewers and assessing their cost on property served by the private sewers. The worst sanitary conditions are to be found in Mill Creek Valley, which is an open drain for a large part of the sewage of the city, as well as for suburban communities. Mr. Layman suggested the advisability of a sewage commission.

**The Civic League of St. Louis.**—The municipal discussions committee of the Civic League has secured the consent of the following speakers to give a limited number of addresses during the winter on municipal subjects before improvement associations, social clubs or church clubs in the city:

R. N. Baldwin, Instructor in Sociology, Washington University, "Social Betterment."

Paul Blackwelder, Assistant Librarian, Public Library, "Public Education and the Individual."

Samuel M. Coulter, Professor of Botany, Washington University, "Public Sanitation."

Walter B. Douglas, Attorney, Vice-president Missouri Historical Society, "History of St. Louis."

Dwight F. Davis, Member House of Delegates, "Municipal Improvement."

Mayo Fesler, Secretary, The Civic League, "Some Municipal Lessons from Germany."

"Planning and Re-planning of Cities" (Illustrated).

Dr. W. E. Fischel, Physician, "City Hospitals and the Health Department."

E. M. Grossman, Attorney, Counsel for the School Board, "Care of Criminals and Delinquents."

Halsey C. Ives, Director, St. Louis Museum and School of Fine Arts, "Municipal Art" (Illustrated).

Frederick N. Judson, Attorney, "Charter Revision," "State and Municipal Taxation."

Henry T. Kent, Attorney, "Value of Civic Improvements."

Frederick M. Mann, Professor of Architecture, Washington University, "Municipal Architecture" (Illustrated).

Charles Nagel, Attorney, "Charter Revision."

Saunders Norvell, Member, the City Council, "Civic Duties."

Roland G. Usher, Instructor in History, Washington University, "History of St. Louis" (Illustrated).

Charlotte Rumbold, Secretary, Public Recreation Commission, "The Housing Problem" (Illustrated), "Public Recreation" (Illustrated).

W. J. Stevens, Principal, Eugene Field School, "City and Home Improvements" (Illustrated).

William Trelase, Director, Missouri Botanical Gardens, "How to Make St. Louis More Beautiful" (Illustrated), "The Culture and Care of Trees" (Illustrated).

Frank P. Crunden, Member City Council, "Some Municipal Improvements."

Mrs. Philip A. Moore, President, General Federation of Women's Clubs, "Social Work in St. Louis."

Harvey L. Christie, Attorney, "How to Improve Municipal Government."

Calvin M. Woodward, Dean of the Engineering School, Washington University, "The Smoke Nuisance."

Fred W. Lehmann, Attorney, President, Public Library Board, "Municipal Institutions."

**National Municipal League.**—At the convention at Pittsburg, Pa., November 16-19, the following officers were elected: President, Charles J. Bonaparte, Baltimore; treasurer, George Burnham, Jr., Philadelphia; secretary, Clinton Rogers Woodruff, Philadelphia. The new executive committee includes: Horace E. Deming, chairman, New York; Robert Treat Paine, Jr., and Harvey S. Chase, Boston; Albert Bushnell Hart, Cambridge, Mass.; Charles S. De Forest, New Haven, Conn., and James Phinney Baxter, Portland, Me.

**Municipal Art Society of Hartford, Conn.**—At the annual meeting of the society, in the absence of the president, John M. Holcombe, the vice-president, Walter S. Schutz, presented a report reviewing the origin and growth of the society, which now has 435 members. The society has published eight bulletins dealing with local civic topics. An interesting report from the committee on street fixtures and advertising signs was read by Miss Hettie Gray Baker. She said that the committee had been corresponding with over 35 cities in the United States and several European cities regarding house numbering, and expected shortly to have an exhibit of the results of its investigations.

**Society of Chemical Industry.**—Frederick P. Fish spoke before the New England section of the society, Boston, Mass., November 6, on "The New English Patent Act," and favored similar legislation in the United States. He believed that greater harm would result to American industries by retaliatory legislation than could possibly be offset by the gain from the working of foreign patents in this country. Mr. Fish emphasized that the fundamental principle of American patent law was the promotion of science and the useful arts, the profit to the inventor or manufacturer, though necessary, being entirely an incidental consequence.

**Good Roads Congress of Georgia.**—The following call has been issued by the Governor:

In view of the imperative necessity for the improvement of public roads and at the request of a Joint Committee representing the Atlanta Chamber of Commerce, the County of Fulton, and the City of Atlanta, I hereby call a Good Roads Congress to meet in Atlanta on December 2 and 3, for the purpose of discussing the subject and taking appropriate action thereon.

All Federal, State, County and municipal bodies, boards of officers, and all commercial and agricultural organizations interested in the improvement of the public roads, are invited to send delegates, and the co-operation of the Governors and the County and Municipal Officers is asked to the end that their respective constituencies may be represented by men qualified to discuss this important subject.

HOKE SMITH, Governor.

**City Club of New York.**—The annual meeting of the club was held November 23 at the clubhouse, 55 West Forty-fourth street. The report of the board of trustees covering the work of the year was presented. Following the business meeting addresses relating to recent developments of importance in municipal affairs were made by Mayor George A. Hibbard, Boston, Mass.; Comptroller Herman A. Metz, New York City, and Lincoln Steffens.

**American Prison Association.**—At the annual convention, Richmond, Va., November 19, the following officers were elected: President, Dr. J. T. Gilmour, Toronto, Canada; general secretary, Joseph P. Byers, Randalls Island, N. Y.; financial secretary, H. H. Shirer, Columbus, O.; treasurer, Frederick H. Mills, New York.

## Calendar of Meetings

November 30-December 1.

**American Society of Refrigerating Engineers.**—Annual Meeting, New York City.—W. H. Ross, Secretary, 154 Nassau street, New York City.

December 1-3.

**Annual Conference of Sanitary Officers.** Albany, N. Y.—Eugene H. Porter, State Commissioner of Health, Albany, N. Y.

December 1-4.

**American Society of Mechanical Engineers.**—Annual Meeting, New York City.—Calvin W. Rice, Secretary, 29 West 39th street, New York City.

December 2.

**American Society of Civil Engineers.**—Regular semi-monthly meeting, Society House, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.

December 2.

**Western Society of Engineers.**—Regular Meeting, Monadnock Block, Chicago, Ill.—J. H. Warder, Secretary.

December 2-3.

**Georgia Good Roads Congress.**—Atlanta.—Call issued to municipal and county officers and members of civic organizations by Governor Hoke Smith.

December 9-11.

**National Rivers and Harbors Congress.**—Washington, D. C.

December 15-17.

**American Institute of Architects.**—Annual convention, Washington, D. C.—Glenn Brown, Secretary, The Octagon, Washington, D. C.

January 13-14.

**Iowa Brick and Tile Association.**—Annual Convention, Mason City, Ia.—C. B. Platt, Secretary.



## PERSONALS

ALLISON, JOHN W., Crowell, Tex., has been elected mayor of the recently incorporated city.

ANDERSON, GUY, Lawton, Okla., chief of the Fire Department, has resigned and Del Dexter has been appointed temporary chief.

COWAN, COL. ANDREW, Louisville, Ky., will retire from the presidency of the Park Board and will probably be succeeded by Col. Morris Belknap.

EDWARDS, JOHN S., Lakeland, Fla., has been elected Mayor, defeating John F. Cox.

FREEMAN, JOHN RIPLEY, Providence, R. I., has been appointed as one of the advisory engineers of Baltimore new water project in connection with the supply from the Gunpowder river.

HAAGER, J. H., Louisville, Ky., Chief of Police, on his way to the National Prison Association, called on Chief Kizer of Norfolk.

HARDEN, MICHAEL J., Milwaukee, Wis., discharged Assistant Chief of the Fire Department, has been granted a pension of \$1,000 a year.

KELLY, BEN, Louisville, Ky., has been appointed Chief License Inspector.

LUFKIN, E. C., New York, N. Y., Vice-President and General Manager of the Snow Steam Pump Works and the Holly Manufacturing Company, has severed his connection with those interests in order to accept a very responsible office with the Texas Company.

MAYER, DR. FRED, has been employed by the Mississippi State Board of Health to visit several cities in the State in the interest of sanitary work.

MCCLELLAN, GEO. B., Mayor of New York, has attained the distinction of having a monument erected in his honor and, moreover, of dedicating it himself; the monument is 53 feet high and 33 feet square at the base and is situated on Winchell Hill near Kingston at an elevation of about 600 feet above the sea; the monument will be used as a triangulation tower by the engineers working on the Ashokan Dam.

MCLAUREN, RICHARD C., New York City, has been elected President of the Massachusetts Institute of Technology at Boston.

MCWEENEY, JAMES, South Bend, Chief of Police recently addressed the National Convention of Woman's Council on the co-operation of women's societies with the police.

MOSES, L. C., Mayor of Parsons, Kan., has recently returned from a visit to Dayton, O.

MULLEN, JAMES, Woonsocket, R. I., was elected Mayor by the largest plurality ever given a Democratic candidate, defeating Chas. E. Andrews.

MURPHY, LESTER T., Warwick, R. I., has been selected as Town Solicitor.

NEEDHAM, JOHN C., Lawrence, Mass., Superintendent of the Street Department and his assistant, John O. Battershill, have been visiting Boston to purchase horses for the department.

OSBORN, JOS. H., Tax Collector of South Orange, N. J., died November 10; for thirty years Mr. Osborn had held office in the village, twenty-six years as Town Clerk and four years as Collector.

PAUL, HENRY C., Fort Wayne, Ind., has resigned the presidency of the old Fort Wayne Gas Company, now the Indiana Lighting Company.

POLLARD, DR. CHARLES, Montgomery, Ala., has been appointed inspector of school sanitation.

PORTER, FRANCIS H., San Francisco, Cal., chief inspector of the Fire Under-

writers' Inspection Bureau, San Francisco, has been visiting Tacoma looking into fire prevention methods.

PORTER, J. L., New Orleans, La., who has been in charge of the Plumbing Department, has been appointed to have charge of the new water filters.

QUICK, WALTER, Water Engineer of Baltimore, Md., and Charles T. Mitchell, paint and hardware supplies, 1120 South Charles street; Henry B. Gilpin, wholesale druggist, 300 West Lombard street; J. Henry Strohmeier, real estate operator, 620 Equitable building; Henry Williams, ex-City Collector and steamship manager, are members of the Water Board and have charge of the Gunpowder river water supply project.

REED, E. E., Mayor of Manchester, N. H., has returned from a hunting expedition to Big Diamond pond, Connecticut Lakes.

ROBERTSON, PERRY S., Mayor of Waxahachie, Tex., has resigned.

SLATER, WILLIAM J., Akron, O., Advertising Manager of the Firestone Tire and Rubber Company, has resigned to become manager and part owner of the Kalamazoo Telegraph.

STEARNS, FREDERIC PIKE, Boston, Mass., has been appointed as one of the advisory engineers of Baltimore's new water project in connection with the supply from the Gunpowder river.

SUTTON, WILLIAM E., Everett, Wash., has resigned his position of City Engineer.

TAFEL, GUSTAV, Cincinnati, O., former Mayor of Cincinnati, died November 12.

WEST, HENRY L., Washington, D. C., has been reappointed Commissioner of the District of Columbia.

WHARTON, RAMSEY, Mayor of Jackson, Miss., died November 9.

WHINERY, SAMUEL, East Orange, N. J., has been appointed by Edward S. Pierson Chairman of the Common Council of East Orange, as chairman of an advisory committee of citizens to consider the question of joining in the Passaic Valley sewer project. Other members of the committee are: Alfred P. Boller, George R. Howe, James E. Reynolds and Philemon Woodruff.

## PATENT CLAIMS

902,708. Ditching and Grading Machine. Morton G. Bunnell, Porter, Ind., assignor to Austin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Serial No. 403,249.

In a ditching and grading machine, a wheeled body frame, a plow disposed at one side thereof, a longitudinally disposed elevator having its forward end arranged inside and in rear of said plow to receive the soil therefrom, a reversible and transversely disposed conveyor arranged in position, to receive the soil from the upper end of said elevator, means for reversing the direction of travel of said conveyor, a laterally projecting conveyor for each end of said first mentioned or intermediate conveyor, means for raising and lowering said laterally projecting conveyers, a single reversible sprocket chain connection for driving the said intermediate conveyor in either direction, and means for controlling the operation of said laterally projecting conveyers.

902,733. Dam. John F. Jackson, Houghton, Mich. Serial No. 443,122.

A dam including in combination a confining portion which receives the horizontal load of the hydrostatic pressure, a submerged portion for the purpose of taking a vertical hydrostatic pressure, and means uniting said two portions so that the vertical pressure upon the submerged portion is utilized to render the dam structure stable against the action of the horizontal pressure, the submerged portion being of such extent and conformation as to secure a vertical hydrostatic pressure of such magnitude as to impart to the total resultant pressure upon the unitary dam structure a magnitude and direction such as to give the desired degree of stability to the dam structure against the sliding and overturning tendency due to the horizontal hydrostatic pressure.

902,837. Street-Paving Apparatus. Herman J. Ruffi, Indianapolis, Ind. Serial No. 423,598.

In a paving apparatus, the combination with a supporting frame, wheels upon which said frame is mounted to be portable, a hollow revolvable cylinder having its ends open, and means for revolving said cylinder, of a furnace situated at the delivering end of said cylinder and connected thereto, a discharging hopper at said delivering end of said cylinder, a mixing trough situated above said furnace, a bucket conveying and elevating means, buckets connected to said conveying and elevating means said elevating and conveying means arranged to move the buckets successively under said discharging hopper and thence to said mixing trough to dump the contents thereof, therein, a feed hopper situated at the end of said cylinder, an air collecting hood situated over said feed hopper and connected to said cylinder, an exhaust fan connected to said air collecting hood and means for driving said fan.

902,973. Method of Tunneling Under Streets, Roads, Squares, Tracks, and the Like. Jens Knudsen, Berlin, Germany. Serial No. 441,712.

Method of making a tunnel under streets, roads, squares, tracks and like surfaces of the ground, consisting in excavating a trench in the ground only as deep as the under surface of the final roof of the tunnel which is to be made, in then driving in a row of girders along each edge of the trench, in making the roof of the tunnel on the bottom of the trench, in then at once restoring the surface of the ground for traffic on the roof, and in then excavating the ground under the finished roof.

902,990.—Arc-Lamp. Richard P. Myers, Walthamstow, England. Serial No. 385,065.

The combination, in an arc lamp, of an insulated terminal, a thermally expansible metal strip connected at one end to said insulated terminal and arranged in series with the arc, arc-controlling mechanism actuated by said strip, a switch comprising two spring members, electrical connections between the ends of said strip and said spring members respectively, a connection between said arc-controlling mechanism and one of said spring members whereby the switch is closed to short-circuit said strip independently of the arc when the arc-controlling mechanism is moved beyond a predetermined distance in separating the carbons, and a fixed contact connected to the other terminal of the lamp and arranged adjacent to the spring member which is connected to the insulated terminal of the lamp, so that when said expansible strip breaks, this spring member will be moved into contact with said fixed contact, substantially as described.

903,022. Sewer-Cleaning Apparatus. William H. Stewart, Boston, Mass. Serial No. 438,965.

In a sewer-cleaning apparatus, a self-adjusting scoop bucket comprising an upper part and a lower part, loosely connected together and movable toward and from each other, substantially as described.

903,062. Manufacture of Bricks, Shaped Stones, or Blocks, Tubes, Tiles and the Like. Heinrich Dresler, Creuzthal, Germany. Serial No. 454,353.

The process of manufacturing bricks and similar articles, which consists in mixing water granulated slag with ground slag that has been solidified in the open air, molding the mixture, and subjecting the molded product to the action of carbonic acid gas under pressure for the purpose of acting on any free lime that may be present, substantially as described.

903,138. Method of Purifying Water. William M. Jewell, Park Ridge, Ill., assignor to The Jewell Engineering Company, Chicago, Ill., a Corporation of Illinois. Serial No. 407,368.

The method of purifying water, which consists in passing the water through a granular filter-bed under the influence of suction, causing air to separate therefrom, and allowing the separated air to escape as filtration progresses.

903,223. Attachment for Steam-Rollers. George J. Nevelin, Kansas City, Mo. Serial No. 413,677.

The combination with a steam roller, of a tank containing oil or its equivalent, and a valve-controlled pipe extending downward from the tank to the feed water pipe-way of the boiler between the controlling valve of the same and the injector.

903,597. Windlass and Grapple Device for Moving Excavating Apparatus. Louis Mayer, Mankato, Minn. Serial No. 420,578.

In an excavating apparatus, means for drawing the said apparatus forward on its track, comprising a windlass and a pair of connected grapples, the said grapples having arms adapted to straddle the wheels of the two forward trucks and to be engaged with the track sections on the opposite sides of the embraced wheels, substantially as described.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage  
Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation  
Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

### BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>STREET IMPROVEMENTS</b>				
Dist. of Col'bia.	Washington.	Nov. 27, noon.	Furnishing 30,000 gals. of paving pitch, more or less.	Jay J. Morrow, Eng'r Com'r.
Ohio.	Cincinnati.	Nov. 27, noon.	Repairing Springfield pike; also avenue from Montgomery to Remington; also treating Ohio pike with Tarvia.	Stanley Struble, Pres. County Com'rs
Utah.	Salt Lake City.	Nov. 27, 8 p.m.	Laying cement sidewalks in Extension No. 141.	H. G. McMillan, Chm. Bd. Pub. Wks.
Ohio.	Columbus.	Nov. 27, noon.	Furn. and rolling 2,400 tons crushed limestone on W. 5th Ave.	John T. Scott, Clk. Co. Com'rs.
Ohio.	Hamilton.	Nov. 28, noon.	Resurfacing with asphalt Main St. and Main St. bridge.	Chr. Pabst, Sec'y, Bd. Pub. Serv.
New Jersey.	Hillsdale.	Nov. 28, 8:30 p.m.	Macadamizing and grading 2,656 miles 8 streets; also 5.33 miles.	Albert Mohrting, Chm. Twp. Com.
Minnesota.	Grand Rapids.	Nov. 28, 10 a.m.	Clearing and grubbing county roads.	M. A. Spang, County Auditor.
Oklahoma.	Guthrie.	Nov. 29, noon.	Paving 67 blocks with rock asphalt, 62 with brick.	W. W. Miller, City Engineer.
Idaho.	Lewiston.	Nov. 30, 8 p.m.	Bldg. 54,000 sq. yds. bitulithic; also comb. curb and gutter.	John E. Nickerson, City Clerk.
Ohio.	Columbus.	Nov. 30.	Asphalt, brick or block paving, curb, etc., 22d St.	E. W. Hirsch, Sec'y Bd. Pub. Serv.
Oklahoma.	Muskogee.	Nov. 30, 5 p.m.	Asphalt paving, 14,000 sq. yds.; also bit. macadam, 3 streets, all on 5-inch concrete, etc.	Morgan Caraway, City Clerk.
New York.	New York.	Dec. 1, 11 a.m.	Asphalt block paving and repairing, flagging walks, grading.	L. F. Haffen, Pres. Bronx Boro.
Ohio.	Ashland.	Dec. 1.	Grading and macadamizing 1.5 miles road, est., \$9,090.	Jas. C. Wonders, State Hwy. Com.
Ecuador.	Guayaquil.	Dec. 1.	Paving and sewer work.	Sewerage and Water Board.
Ohio.	Bryan.	Dec. 2.	Grading and macadamizing 1.26 miles State road, est., \$6,999.	State Hwy. Com'r, Columbus.
New York.	Brooklyn.	Dec. 2, 11 a.m.	Asphalt and granite repaving on concrete, regulating sts., etc.	Bird S. Coler, Boro. President.
New York.	New York.	Dec. 3, 3 p.m.	Furn. new 5-in. bluestone curbing, Broadway and 70th St.; also rebldg. rdwy. Eastern Blvd., inc. asphaltic mixture surface.	Henry Smith, Pres. Park B.I.
New Jersey.	Red Bank.	Dec. 7.	Paving portions of Monmouth St. with brick.	A. C. Harrison, City Clerk.
Kansas.	Kansas City.	Dec. 7.	Macadamizing DeFries and Gibb roads, resurf. 2 roads.	F. M. Holcomb, County Clerk.
Indiana.	Decatur.	Dec. 7.	Bldg. 3 macadam roads in Washington, Preble and Kirklin twps.	C. D. Lewton, County Auditor.
Indiana.	Crown Point.	Dec. 7, noon.	Bldg. gravel road in North township.	Charles A. Johnson, County Aud.
Indiana.	Huntington.	Dec. 7, noon.	Constructing macadam road in Huntington township.	John W. Weaver, County Auditor.
Indiana.	Delphi.	Dec. 7, noon.	Bldg. 2 gravel roads in Democrat township.	M. G. Haun, County Auditor.
Indiana.	Crawfordsville.	Dec. 7, 10 a.m.	Grading, draining, gravel, J. B. Jones road, Walnut township.	Bennett B. Engle, County Auditor.
Indiana.	Vernon.	Dec. 7, 11 a.m.	Constructing 2-3-4 miels of pike road in Vernon township.	I. L. Thomas, County Auditor.
Michigan.	Muskegon.	Dec. 7.	Brick paving certain streets.	B. H. Tellman, City Recorder.
Indiana.	Vincennes.	Dec. 8, 2 p.m.	Bldg. 2 gravel roads, 3,205 and 1,300 ft. long.	John T. Scott, County Auditor.
Indiana.	Bedford.	Dec. 8, 1 p.m.	Bldg. 10,453 ft. Mitchell gravel or macadam road.	Walter G. Owens, County Auditor.
Indiana.	Spencer.	Dec. 8.	Constructing 15,305 ft. gravel road Montg., 12,500 ft. Jeff. twp.; 15,800 ft. macadam road Washn.; 9,307 ft. Frank twp.	Geo. W. Edwards, County Auditor.
Indiana.	Madison.	Dec. 8, 1 p.m.	Bldg. 58,404 ft. macadam road Lancaster twp., 6.64 miles Smyrna.	G. F. Crozier, County Auditor.
Indiana.	Bloomfield.	Dec. 8.	Bldg. gravel and macadam road, Stockton township.	Peter M. Cook, County Auditor.
Indiana.	Muncie.	Dec. 9, 10 a.m.	Gravel roads, etc., 3 twps.; brick road Centre twp., all Del. Co.	Jos. E. Davis, County Auditor.
Indiana.	La Fayette.	Dec. 9, 10 a.m.	Constructing Bender gravel road in Wabash township.	John P. Foresman, County Auditor.
Indiana.	Corydon.	Dec. 9, 2 p.m.	Bldg. macadam road, Spencer, mac. or gravel, Jackson twp.	Frank E. Watson, County Auditor.
Ohio.	Cincinnati.	Dec. 11, noon.	Improving Ritterhouse road, Miami twp., Spec. 799.	Stanley Struble, Pres. County Com'rs
Kansas.	Fort Riley.	Dec. 14, 10 a.m.	Macadam roads, curbing, grading, gutters, etc.	Capt. W. M. Whitman, Constr. Q. M.
New Jersey.	Newton.	Dec. 17, noon.	Grading and macadamizing 10 miles of road.	Loren C. Cole, Dir. Bd. Freeholders.
Minnesota.	St. Paul.	Dec. 21, 10 p.m.	Macadam or gravel on Bald Eagle Lake Ave.	Edw. G. Krahmer, County Aud.
<b>WATER SUPPLY</b>				
New York.	Brooklyn.	Nov. 25.	Furn. and delivering pig lead in Brooklyn, security \$4,000.	John H. O'Brien, Com. W. S. G. & E.
Wyoming.	Cheyenne.	Nov. 30, 2 p.m.	Bldg. masonry dam, inc. 7,500 cu. yds. concrete, 3,847 cu. yds. earth fill, 348 cu. yds. stone rip-rap; also removing 547 cu. yds. loose rock and 1,643 cu. yds. solid rock.	C. C. Carlisle, City Engineer.
California.	Los Angeles.	Nov. 30, 11 a.m.	Constructing 11 miles open and lined ditch work of Antelope Sec., Los Angeles aqueduct, inc. 58,625 ft. canal lining, with cover and back fill; 283,140 cu. yds. excavating; 446 cu. yds. plain concrete in culverts; 100 cu. yds. rubber concrete; lining 280 lin. ft. of tunnel, now excavated.	Board of Public Works.
Manitoba.	Winnipeg.	Nov. 30.	Furn. five 8-in. hydrants for high pressure fire service.	M. Peterson, Sec'y Bd. Control.
Kansas.	Moundridge.	Dec. 1.	Bldg. \$30,000 water works and electric light plant.	E. E. Lehmborg, Mayor.
Texas.	Greenville.	Dec. 1, noon.	Furn. f.o.b. Greenville, 500 ft. 16-in., 27,300 ft. 6-in., 700 ft. 8-in. c. i. pipe, 65 two-way hydrants, four 8-in., twenty-one 6-in. gate valves, 25 exten. gate boxes, 20 tons specials, approximate quantity.	J. W. Maxcy Co., Binz Bldg., Houst'n.
New Jersey.	Haddonfield.	Dec. 1, 8 p.m.	Bldg. municipal w.w., inc. 11 miles c. i. or other approved pipe specials, valves, etc., power-house, etc., 25 x 110 ft. stand-pipe, laying all pipe, two 1,000,000-gal. pumping units, 2 or more artesian wells.	J. Morris Roberts, Mayor.
Wisconsin.	Wilton.	Dec. 1, 8 p.m.	Constructing complete system of water works.	W. F. Vogel, Village Clerk.
Kansas.	Burlington.	Dec. 1.	Pumping machinery to cost \$7,000.	Burns & McDonnell, K. C., Mo., Eng'rs.
New York.	New York.	Dec. 1, 11 a.m.	Constructing north half of Walkill Pressure Tunnel.	J. Waldo Smith, Bd. Water Supply.
Illinois.	Yorkville.	Dec. 1, 8 p.m.	Constructing a concrete reservoir for village, inc. 15 h. p. gaso-line engine, 200-gal. rotary pump, 5,915 ft. 6-in. pipe, laid; pump house; H. D. Hallett, Aurora, Eng'r.	Dr. McClellan, Chm. W. W. Com.
Georgia.	Covington.	Dec. 2, 3 p.m.	Bldg. w.w., inc. 400 tons 6 to 10-in. c. i. pipe, valves, hydrants, 15 x 110 ft. stand. pipe, 2 comp. pump engines, turbine pump and motor, brick pump station, settling and clear water basins and sewer system.	C. C. Brooks, Chm. Chm. Bd. Com'rs.
Michigan.	Grand Rapids.	Dec. 3.	Furnishing 847 water meters for city.	S. A. Freshney, Gen. Mgr., B. P. W.
Massachusetts.	Springfield.	Dec. 4, 2 p.m.	Bldg. earth dam; Little River Water Supply, Contract No. 5 to contain 135,000 cu. yds. rolled embankment, 3 miles of roads, gate house, spillway, etc., cost, \$200,000.	E. E. Lochridge, Ch. Eng. Water Bd.
South Dakota.	Murdo.	Dec. 7.	Pump sta., dis. system and 50,000-gal. steel tank and tower.	City Clerk.
New York.	Amsterdam.	Dec. 8, 8 p.m.	Hauling and delivering, also constructing c. i. pipe, etc., for Hanns Creek Conduit No. 2, inc. 3,538 tons 30-in., 3,844 tons 24-in.; 16 1-2 tons smaller sizes, all straight piping; 25 tons 30-in.; 20 tons 24-in. specials; 16 tons 30-in. and 20 tons 24-in. inspection castings.	Chas. C. Yund, Pres. Water Bd.
Mississippi.	Meridian.	Dec. 8, 6 p.m.	Furn. and erect. 5,000,000-gal. hori. cross-compound crank and flywheel pump-engine; also bldg. rein. concrete reservoir.	C. C. Dunn, Pres. W. W. Com.
California.	Gridley.	Dec. 14, noon.	Furn. and erect. steel tank and tower for water works.	F. G. Moesch, City Clerk.
Minnesota.	Eveleth.	Dec. 15.	Placing 300,000-gal. tank 110 ft. high, con- with city; \$30,000.	D. P. McIntyre, City Clerk.
Kansas.	Augusta.	Dec. 20.	Constructing water works.	Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., Eng'rs.
Indiana.	Connersville.	Jan. 12, 7:30 p.m.	Constructing and leasing to city, additions and improvements to water works for 10 or 25 years; bond, \$100,000.	Jacob S. Clouds, City Clerk.
Florida.	Daytona.	Jan. 1.	Constructing water works for city.	D. D. & C. M. Rogers, Engineers.
<b>SEWERAGE</b>				
New York.	Brooklyn.	Nov. 25.	Bldg. sewers, 5 sts.; 3,084 ft. 12-in., 165 ft. 15-in., 263 ft. 18 in.	Bird S. Coler, Boro. President.
New York.	Buffalo.	Nov. 25, 11 a.m.	Laying brick, also 10 and 12-in. tile sewer in 3 streets.	F. G. Ward, Com'r Pub. Works.
Indiana.	Indianapolis.	Nov. 26.	Bldg. sewers in 3 streets and under market house.	Blaine H. Miller, City Engineer.
Ohio.	Pioneer.	Nov. 26, noon.	Constructing sewer in Lynn St.	Village Clerk.



Iowa.....	Fort Dodge.....	Nov. 26, 5 p.m.	Bldg. 7 blocks, 8-in. sanitary, 1 block 10-in. storm sewer.	C. H. Reynolds, City Engineer.
Michigan.....	Grand Rapids.....	Nov. 27, 8 p.m.	Sewage pump mach., inc. four 40-in.; four 24-in., two 18-in. centrifugal pumps; four 175-h.p., two 75-h.p., two 60-h.p. and three 30-h. p. elec. motors; vacuum pumps, motors, etc.	Geo. C. Pierce, Pres. Bd. Pub. Wks. R. Murelison, Clerk. Bd. Pub. Wks. A. C. Maxwell, City Clerk. W. A. Budroe, Clk. Bd. Pub. Serv. Reynold Voit, Sec'y Bd. Pub. Serv. L. C. Kelsey, City Engineer. John E. Nickerson, City Clerk. Jay J. Morrow, Eng'r Com'r. Harry B. Salter, City Clerk. Int. Bur. of Am. Rep., Wash'n, D. C. Louis F. Haffen, Pres. Bronx Boro. Commandant Officer. J. B. McCrary & Co., Atlanta, Eng'rs. Dr. Thos. Darlington, Pres. Bd. Hlth. Bird S. Coler, Boro. President. B. H. Tellman, City Recorder.
Minnesota.....	Duluth.....	Nov. 27, 10 a.m.	Constructing sanitary sewers in 7 streets.	
Nebraska.....	Lexington.....	Nov. 27	Constructing pipe sewers, to cost \$16,000.	
Ohio.....	Dayton.....	Nov. 27, noon.	Bldg. 3,800 ft. 8-in. vit. pipe; also 1,070 ft. 12 to 24-in. pipe.	
Ohio.....	Toledo.....	Nov. 27, noon.	Constructing sewer, Nos. 1051, 1054, 1056 and 1058.	
Utah.....	Salt Lake City.....	Nov. 27, 8 p.m.	Constructing sewer extension, No. 208.	
Idaho.....	Lewiston.....	Nov. 30, 8 p.m.	Constructing drainage system for city.	
Dist. of Col'bia.....	Washington.....	Nov. 30, noon.	Constructing concrete sewers.	
New Jersey.....	Trenton.....	Dec. 1, 8 p.m.	Bldg. sewer in portion of Taylor Alley and Christopher Ave.	
Ecuador.....	Guayaquil.....	Dec. 1	Constructing sewerage system.	
New York.....	New York.....	Dec. 1, 11 a.m.	Bldg. sewers and receiving basins in Bronx borough.	
New York.....	New York.....	Dec. 1, 10 a.m.	Furn. automatic sewer machine, etc., at navy yard.	
Georgia.....	Covington.....	Dec. 2, 3 p.m.	Bldg. sewer system, inc. 5 miles 6 to 15-in. vit. pipe, etc.	
New York.....	New York.....	Dec. 2, 10 a.m.	Bldg. iron and tile trunk sewer and laterals, No. Brother Island.	
New York.....	Brooklyn.....	Dec. 2	Furn. mat. and laying sewer E. 98th St., est. \$206,640.	
Michigan.....	Muskegon.....	Dec. 7, noon.	Constructing sanitary sewers in certain sts., also drainage sewer.	
Oklahoma.....	Hobart.....	Dec. 8	Furn. and laying 910 ft. 12-in., 1,900 ft. 10-in., 13,080 ft. 8-in. concrete or vit. pipe sewer, 31 manholes, 6 flush tanks.	O. E. Noble, City Engineer.
Ontario.....	Toronto.....	Dec. 15, noon.	Bldg. Sec. 3, high level intercepting sewer, inc. 1,971 ft. 7 1-2 ft., 2,417 ft. 7 3-4 ft., 1,557 ft. 8-ft., 440 ft. 8 1-2 ft. circular sewer, manholes, connections, etc.	Joseph Oliver, Mayor.
<b>BRIDGES</b>				
Pennsylvania.....	Monongahela.....	Nov. 25, noon.	Bldg. joint County bridge, three 450 ft. spans on 2 concrete abutments and 2 stone river piers with pipe and cone foundation.	F. P. Booth, County Controller. John Morrissey, D. P. W., Frederickton. John Morrissey, D. P. W., Frederickton. Ole Joysensen, Sec'y Bridge Com'n. I. J. Bryan, Clk., Sanitary Dist. County Clerk. Harrison County Com'rs. G. F. Stinchfield, County Aud. Commercial Imp. Co., Dwight Bldg. County Commissioners. J. D. Laughlin, Chancery Clerk. Gibson County Commissioners.
New Brunswick.....	Havelock.....	Nov. 30, noon.	Rebuilding Havelock village culvert in Havelock parish.	
New Brunswick.....	Lepreau.....	Nov. 30, noon.	Rebuilding Mill Pond Bridge over Little Lepreau River.	
Minnesota.....	New Elm.....	Dec. 1, 2 p.m.	Bldg. 65-ft. span steel bridge over Lit. Cottmud River.	
Illinois.....	Chicago.....	Dec. 2, noon.	Bldg. superstructure of bridge over railroad in Evanston.	
Kansas.....	Wichita.....	Dec. 5	Bldg. 80-ft. steel bridge, 16, two 80, 300 and 400-ft. pile bridge.	
Mississippi.....	Gulfport.....	Dec. 7	Bldg. new bridge over Hurricane Creek, Amey and Ramsy road.	
Indiana.....	Valparaiso.....	Dec. 7	Bldg. 40-ft. span on concrete, 60, 100 and two 90 ft. on tubes.	
Missouri.....	Kansas City.....	Dec. 7, noon.	Bldg. steel super. and concrete footings, Main St. viad.	
Mississippi.....	Grenada.....	Dec. 7	Bldg. iron bridge over Bogue Creek at Tie Plant.	
Mississippi.....	Vicksburg.....	Dec. 7	Building 4 bridges.	
Indiana.....	Princeton.....	Dec. 8, 11 a.m.	Constructing 33 bridges for County.	
Wisconsin.....	Green Bay.....	Dec. 14, 2 p.m.	Bldg. bridge over Fox River at Walnut St., inc. four 140 ft. spans and 114 ft. bascule span, cost \$150,000.	W. W. Reed, City Engineer.
Ohio.....	Columbus.....	Dec. 16, noon.	Bldg. \$20,000 masonry approaches and sub-str. of viaduct, Mound St.; also \$100,000 steel superstructure for viaduct.	E. W. Hirsch, Sec'y Bd. Pub. Serv. F. A. Houston, County Clerk. J. H. Leatherman, County Aud.
Nebraska.....	Fairbury.....	Jan. 1	Yearly bridge contract for Jefferson County.	
Indiana.....	Rensselaer.....	Jan. 12	Constructing bridge over Kanku River.	
<b>LIGHTING AND ELECTRICITY</b>				
Pennsylvania.....	Johnstown.....	Nov. 25	Elec. light, sts., alleys, pub. bldgs., etc., for 5 and 10 yrs. from January 1.	Geo. E. Hamilton, City Clerk. W. Lesley Brown, Acting Mayor. Ray L. Jordan, Village Clerk. Dept. Justice, Washington, D. C. H. B. F. Macfarland, Com'r. M. J. Desmond, City Clerk. F. T. Bowler, Sec'y Lighting Com'n. Burns & McDonald, Kansas City, Mo., Engineers. L. J. Fleming, Constr. Q. M. Robt. W. Hebbard, Com'r Charities. D. O. Batchelor, County Aud. Jas. P. Berry, Sec'y Bd. C. & S. Lee Stephens, Com'r of Lights.
Florida.....	Tampa.....	Nov. 27	Lighting streets with 100 electric arc lights; also for gas light.	
Ohio.....	Richwood.....	Nov. 28, noon.	Lighting streets with 35 arc lamps, 2,000 c. p. for 10 years.	
Georgia.....	Atlanta.....	Nov. 30, 10 a.m.	Furn. etc., 25-h.p. electric motor, etc., for U. S. Penitentiary.	
Dist. of Col'bia.....	Washington.....	Nov. 30, 2 p.m.	Switchboards, conduits, etc., for use in Manual Train. School.	
California.....	Sacramento.....	Nov. 30	Lighting streets and city departments for 1 year from Dec. 31.	
Michigan.....	Detroit.....	Nov. 30, 4 p.m.	Furn. arc lamps, copper wire, cross arms and cedar poles.	
Kansas.....	Moundridge.....	Dec. 1	Bldg. electric light plant for city.	
Texas.....	Ft. Sam Houston.....	Dec. 2	Extending elec. line and additional street lights.	
New York.....	New York.....	Dec. 2, 2:30 p.m.	Complete electric light and power system for Blkw'l's Isl.	
Indiana.....	Goshen.....	Dec. 10, 9:30 a.m.	Install. \$725 acetylene plant at Co. Infirmary at Dunlaps.	
Connecticut.....	Hartford.....	Jan. 4, 11 a.m.	Lighting streets for 1 or 5 years from June 1, 1909.	
Texas.....	Fort Worth.....	Jan. 15	Furn. arc and other lights for city.	
<b>MISCELLANEOUS</b>				
New York.....	Newark.....	Nov. 26	Erecting \$25,000 brick village hall; J. M. Pratt, Arch.	Village Board of Trustees.
California.....	Los Angeles.....	Nov. 26	Furnishing a quantity of lumber.	Board of Public Works.
Dist. of Col'bia.....	Washington.....	Nov. 27	Furn. 4 steel dump cars, Circ. 477 1st. Canal Com'n.	Capt. F. C. Boggs, Purch. Agent.
Illinois.....	Chicago.....	Nov. 28, 11 a.m.	Furn. 39 st. flushing machines, f. o. b. cars, Chicago.	John J. Hanberg, Com'r Pub. Wks.
Michigan.....	Pontiac.....	Nov. 30	Furn. 65-ft. aerial truck, with 35-gal. double tank comb. wagon.	Jos. Toynton, Chief Fire Dept.
Louisiana.....	New Orleans.....	Dec. 1, 11 a.m.	Furn. 1,200 ft. multiple woven, circ. seamless fire hose.	John W. Lewis, Chm. Fire Com.
Ohio.....	Tiffin.....	Dec. 1	Work on Silver Creek, principally rock excav.; cost, \$15,000.	C. J. Peters, County Engineer.
Pennsylvania.....	Philadelphia.....	Dec. 1	Cleaning streets and collection of ashes; also for removal and disposal of garbage; both for entire city.	Dept. of Public Works.
New York.....	New York.....	Dec. 2, 10:30 a.m.	Furn. 10 top buggies for Manh. and 10 for Brooklyn Fire Dept.	Nicholas J. Hayes, Fire Com'r.
New York.....	New York.....	Dec. 3	Bldg. foundations of municipal bldg., est. \$950,000.	J. W. Stevenson, Com'r Bridges.
New York.....	New York.....	Dec. 3	Bldg. 40 metal storage cabinets for Am. Mus. Natl. Hist.	Henry Smith, Pres. Park Board.
Virginia.....	Richmond.....	Dec. 3, 6 p.m.	Constructing market and armory building.	H. P. Beck, Bldg. Insp'r.
New York.....	Niagara Falls.....	Dec. 4, 10:30 a.m.	Bldg. complete, inc. plumbing, electric heating and lighting for shaft and tunnel and inclined foot path, bond, \$50,000; also elevators, inc. machinery, etc., bond, \$10,000.	E. H. Perry, Supt. State Reservation. John D. Taylor, Mayor.
North Dakota.....	Grand Forks.....	Dec. 7, 5 p.m.	Furnishing 1,000 ft. 2 1-2-in. single jacket cotton fire hose.	
Indiana.....	Paoli.....	Dec. 8, 2 p.m.	Bldg. 24-ft. span steel by-bridge and concrete retain. wall, 18 ft. long.	Alvin B. Ham, County Auditor.

## STREET IMPROVEMENTS

**Oakland, Cal.**—Council has passed ordinances authorizing Board of Public Works to advertise for bids for patching permanently paved streets; appropriation, \$8,500; also improvement of Poplar street; appropriation, \$14,513.13.—F. R. Thompson, City Clerk.

**Fort Pierce, Fla.**—St. Lucie County will vote January 19 on \$150,000 bond issue for road construction.—Address County Commissioners.

**Manatee, Fla.**—City will probably vote on \$15,000 bond issue for street improvements.—Address the Mayor.

**Pensacola, Fla.**—Citizens have defeated an issue of \$200,000 bonds for road improvement.

**Fitzgerald, Ga.**—Ben Hill County will build about 500 miles of roads and improve the old roads in the county during the next twelve months.—W. A. Bowen, Chairman.

**Macon, Ga.**—Bibb County is considering issue of \$150,000 bonds for road construction and improvements.—Address County Commissioners.

**Elkhart, Ind.**—South Main street property owners have decided on the improvement of the thoroughfare as outlined by the Board of Public Works; sheet asphalt will be used; estimated cost, \$50,000.

**Indianapolis, Ind.**—The Board of Public Works has confirmed resolution for im-

proving LaGrande avenue from East street to Pleasant Run boulevard, from Applegate street to Shelby street, with cement walks, curbing and gravel roadway, and rescinded the improving of first alley north of Sixteenth street from Capitol avenue to Senate avenue, wooden block pavement; also ordered the grading of South Chester avenue from Washington street to Moore avenue and cement sidewalks in DeQuincy street, from Washington to Michigan street.—Blaine H. Miller, City Engineer.

**Cedar Rapids, Ia.**—Council passed a resolution providing for the improvement of sundry streets.—L. J. Story, City Clerk.

**Vinton, Ia.**—Council has directed estimates to be prepared for improving certain streets by paving.—Address City Clerk.

**Leavenworth, Kan.**—City Engineer A. Maduska is preparing plans for 30,000 linear feet of artificial stone curbing.—J. H. Kirmeyer, City Clerk.

**Abbeville, La.**—Council has adopted the resolution that Governor J. Y. Sanders be memorialized to send engineers to make the survey looking to the betterment and improvement of highways of Vermilion County.

**New Orleans, La.**—City will expend about \$1,000,000 in street paving, plans and specifications for which have been approved by City Council; bitulithic, asphalt and granitoid concrete blocked pavement will be used. Carrollton avenue from St. Charles

avenue to City Park avenue will be paved; distance, three miles; cost, \$800,000, of which the city will pay \$500,000 and property owners \$300,000.—W. J. Hardee, City Engineer.

**Baltimore, Md.**—The Board of Public Improvements has passed ordinances providing for the paving of Edmondson and Park avenues, Payson, Mt. Pine, Garrett, Laurele, Hanover, Aisquith and Chester streets.

**Baltimore, Md.**—Council Committee on Highways has approved appropriations of the Board of Estimates for street paving and to provide additional streets to be paved out of a balance of \$9,225 from the street-paving estimate; also received petitions for paving Chester street between Orleans and Baltimore streets, \$10,000; O'Donnell street between Chesapeake and Canton streets, \$10,000; Ann street between Gough and Pratt streets, \$5,000; Aisquith street between Lexington and Orleans street, \$5,000; Ensor street between Lamont and North avenues, \$3,000; Wolfe street between Jefferson and Monument streets, \$10,000; Fulton avenue, between Baltimore street and Frederick avenue, \$3,000; Payson street between Baltimore and Fayette streets, \$5,000; Callendar street between Columbia avenue and St. Peter street, \$1,300; Milton Place between Fremont and Arlington avenues, \$10,000. M. F. Gebhardt, S. Greenbaum, L. B. Mills, B. Keller, George Knoop, J. J. Cum-

mings, H. C. Buckwald and James P. Healy, representing West Baltimore Business Men's Association, also urge the paving of Carey street between Baltimore and Pratt streets. G. A. Sohl, L. P. Ranft and L. F. Fowler, of Harlem Park Improvement Association, advocate the paving of Fremont avenue, between Lexington and Baltimore streets, an appropriation for which has been granted.

**Ford (Detroit P. O.), Mich.**—Village Council has adopted resolution instructing the President and Committee on Streets to get estimate of the cost of paving Biddle avenue, the length of the village, from Engineer Mason L. Brown.

**Grand Rapids, Mich.**—Council has ordered the Board of Public Works to prepare estimates for grading and macadamizing James street, Gidding and Eastern avenues.—J. L. Boer, City Clerk.

**Minneapolis, Minn.**—Council has received an ordinance providing for the narrowing of the roadway of Franklin avenue, East, between Tenth and Twenty-ninth avenue South, and from Twenty-ninth avenue to the river.

**Hattiesburg, Miss.**—County Board has authorized issue of \$20,000 road building bonds.

**Kansas City, Mo.**—The Board of Public Works has adopted resolutions providing for paving Eighth, Wyoming, McCoy, Scarritt, South Benton and Seventh streets, and constructing granitoid sidewalks on Merriam, Walrond, Harrison, Kensington, Fremont, Grand, Chelsea and Poplar streets.

**Kansas City, Mo.**—Board of Public Works has adopted resolutions for curbing both sides Thirteenth, Bates to Askew; Twenty-sixth, vine to Euclid; Fortieth, Holmes to Harrison; Mastin place, Central to Wyandotte; Virginia, Fortieth to Forty-first; also resolutions for sidewalks on Thirty-sixth, Vine to Highland; Fortieth, Holmes to Campbell; Terrace, Twenty-ninth to Thirtieth; Wyandotte, Twentieth to Mastin place; Virginia, Fortieth to Forty-first; Norton, Twenty-sixth to Twenty-seventh.—J. L. Darnell, City Engineer.

**Gloucester, N. J.**—Council will probably pass an ordinance calling for a special election as to whether there shall be a bond issue to cover King street, from Newton creek bridge to Jersey avenue, with asphalt; cost about \$75,000; this is the only street in the city that has not been improved.

**Hoboken, N. J.**—The Board of Trade has adopted resolutions favoring the improvement of Yoru street, from the river front to Barrow street, and the improvement of Exchange place, Jersey City, were adopted; Board wants York street improved with specification block on an 8-inch base.

**Newark, N. J.**—Council has passed ordinances to pave Smith street from the westerly crosswalk of High street to westerly crosswalk of Water street with asphalt block; East avenue from Washington street to New Brunswick avenue with vitrified shale paving brick; Kearny avenue from Market street to Lewis street with bituminous macadam; an ordinance to work Brace avenue from Amboy avenue westerly to the city line; also granted petition establishing grade on Hall avenue between Amboy avenue and the Central Railroad, and petition to work Hall avenue from Amboy avenue to the Central Railroad.—M. R. Sherrerd, Chief Engineer, Board of Street and Water Commissioners.

**Belmont, N. Y.**—The Allegany County Board of Supervisors has passed resolutions giving the town of Rushford the first of the State good roads; four mile stretch to be built will be put under State supervision.

**Brooklyn, N. Y.**—Residents of the Ridgewood section of Queens have clubbed together to have their principal thoroughfares paved at their own expense, with the expectation that the work will later be accepted by the City of New York; Borough President Gresser is co-operating; Hisgen block pavement may be used, as it is cheaper and considered by those interested more durable than asphalt.

**Buffalo, N. Y.**—Two commissions are at work on the legal preliminaries to carrying out the city's plan for the widening of Elmwood avenue between Virginia and North streets. Commissioners on the widening of Elmwood avenue are: Charles Diebold, Jr., Howard H. Baker and William F. Kasting; this commission will pass upon the value of forty-four pieces of land.

**Rochester, N. Y.**—Council has ordered the improvement of Leighton avenue and Sharper street; also Meny and Hague streets.—Wm. Ward, City Clerk.

**Rome, N. Y.**—The Board of Public Works has adopted a resolution providing for the paving of Stanwix street and Floyd avenue.

**Syracuse, N. Y.**—Common Council has adopted an ordinance providing for the paving of a portion of Burnet avenue with brick; cost, \$90,000.

**Syracuse, N. Y.**—Council has ordered

resolution drawn on the general fund for \$300 to be placed to the credit of the highway fund; \$200 to be spent on Arsenal street below the viaduct and \$300 to be used in improving the road at the north end of the Court street bridge to the intersection of Le Ray and Main streets.

**Troy, N. Y.**—The Contract and Supply Board has considered the paving of Second street, from Division to Congress; sheet asphalt is preferred to granite block; the work will not be done until next spring.

**Grand Forks, N. D.**—Council will receive bids December 15 for the purchase of \$75,000 of city paving warrants.—W. H. Alexander, Auditor.

**Ashland, O.**—A resolution has passed Council declaring it necessary to improve Grand street, from Walnut to Bank street, by grading, curbing and paving with brick or asphalt block.

**Cleveland, O.**—Council has passed ordinances for improvement of West Seventeenth street, Denison and Euclid avenues; also received ordinances for improvement of Cannon and Cudell avenues and West Fifty-seventh street.—Peter Witt, Clerk.

**Dayton, O.**—Councilman Welmer, of the Sixth Ward, has brought before the Council Committee of the Whole the proposition of extending Norwood avenue to National avenue, which was authorized by Council last year but which action was rescinded by the present Council early this year; the City Engineer has been instructed to prepare plans and estimates, as opinions differ as to whether the cost will be \$30,000 or \$130,000.

**Mansfield, O.**—Council has passed ordinances establishing grades on Prospect street and Lexington avenue; also for vacating alley extending south from Florence street.

**Poland, O.**—Bids will be received December 7 for the purchase of about \$4,000 5 per cent. street improvement bonds.—J. M. Clelland, Village Clerk.

**Springfield, O.**—Bids will be received December 8 for the purchase of \$4,000 5 per cent. street improvement bonds.—L. N. Paris, City Auditor.

**Youngstown, O.**—The G. A. R. property which John R. Davis, Jr., suggested purchasing for an opening from Federal street through to the market house in Boardman street is offered to the city at a cost of \$125,000; plan proposed is to construct an arcade through from Federal street at a point near Chestnut street for pedestrian traffic only.

**Hobart, Okla.**—Brick and asphalt are the two materials with which Hobart will be paved; that matter has been settled by Council, bitulthic macadam having been thrown out.

**McAlester, Okla.**—Council has authorized the advertising for bids to pave Choctaw avenue to Fifth street.

**Muskogee, Okla.**—City will soon award contract for paving about 300,000 square yards with asphalt.—L. B. Kinsey, City Engineer.

**Muskogee, Okla.**—Bids for asphalt paving amounting to 14,000 square yards will be received November 30, 5 p. m.—L. B. Kinsey, City Engineer.

**Bentleyville, Pa.**—Citizens are discussing paving a street with brick; work can be done for a little less than \$2 a foot.

**Butler, Pa.**—Council will take action on the paving of the upper end of New Castle street, from the end of the present paving to the township line to connect up with the State highway now being constructed; State will pay three-fourths of the paving, but city will have to pay for the curbing, in addition to their one-fourth of the paving; total expense to the borough, \$600.

**Chambersburg, Pa.**—The Board of Trade has adopted resolutions indorsing Governor Stuart's plan for building a State highway between Philadelphia and Pittsburg.

**Greensburg, Pa.**—Town has formed an association for the reconstruction of the old Pittsburg-Philadelphia turnpike.—Congressman Huff, Treasurer.

**Harrisburg, Pa.**—Councils have received ordinance for improving Front street from Calder northward by grading and paving.

**Harrisburg, Pa.**—Highway Committee has been directed to draw up an ordinance to widen East Conestoga street; Mr. Cameron will donate the necessary ground.

**Johnsonburg, Pa.**—The Solicitor will proceed with the preparation and marketing of paving bonds provided for at the last election, and the Street Committee has been instructed to secure an Engineer experienced in the work of paving hill streets and to make all necessary preparations for the actual work as soon as weather conditions permit.

**Philadelphia, Pa.**—The H. H. Houston Estate will soon begin work on the boulevard to extend from Chestnut Hill to Bryn Mawr; distance of seven miles; cost about \$2,500,000.

**Pittsburg, Pa.**—Committee on Highways has allowed \$5,000 for paving unassessable

property; \$10,000 for grading and curbing and repaving.

**Wilkes-Barre, Pa.**—Engineers Manesse & Earl, Pittsburg, are preparing plans for 4,000 square yards of brick paving, 3,000 linear feet sandstone curb, on gravel base, on Locust street.—Oliver Stokes, Borough Clerk.

**Wilkes-Barre, Pa.**—Council has received resolutions directing the Street Commissioner and City Engineer to prepare an estimate of the cost of repairing asphalt and brick streets where cuts have been made by plumbers; also that Washington street between Elm and Chestnut be filled in by the Street Commissioner to the proper grade and that the gutters on both sides be filled to the proper level, and that Madison street between Hollenback and Maple be graded and placed in a passable condition.

**Bristol, Tenn.**—The resolution for opening Goodson street through to State street has been referred to the Street and Finance Committee; also resolution declaring official the grades established by the City Engineers on Sollins, Commonwealth, Piedmont and Fairmount streets; the Street Committee has been instructed to report on the cost of opening Buchanan street from Railroad street to Buchanan street; petitions for sidewalks on Commonwealth avenue, Highland avenue and Scranton street have been allowed.

**Chattanooga, Tenn.**—The Board of Public Works has deferred action on bids received for brick paving on 3,500 feet of roadway on East Main street; new bids will be asked.—H. F. Van Dusen, Chairman.

**Jackson, Tenn.**—Council has passed the ordinances in connection with the Third Improvement district pavement, and \$10,000 bonds will be issued for purpose; allowed petition making Hays avenue from Main street north Improvement District No. 5, and City Engineer has been instructed to ascertain costs of same and report to next meeting.

**Memphis, Tenn.**—City Engineer Helskell Weatherford has introduced a resolution asking that before the paving work was begun on Jackson boulevard before St. Joseph's Hospital that a conference be held with the property owners with the view of having the street widened; Memphis Street Railroad Company propose to double-track at this point.

**Dallas, Tex.**—The roadbed of the Houston and Central Railway Company in the northern part of the city will be cut down to the regular street grade; in places it will be necessary to cut down the roadbed as much as five feet, and General Superintendent Radetzki has estimated that the work will require an expenditure of \$30,000 by the railway; work will begin at Live Oak street and extend to Thomas avenue, a distance of 5,000 feet; following is a list of the streets between which the grade reducing is to be done, and the number of feet the track is now above grade: Montezuma street must be lowered 1 foot; Bryan street, 1½ feet; Boll street, 2½ feet; San Jacinto street, 3 feet; Ross avenue, 5 feet; Flora street, 3 feet; Cochrane street, 2 feet; Hall street, 1½ feet; Thomas avenue, 1½ feet.

**Dallas, Tex.**—The Missouri, Kansas and Texas Railway Company has agreed to give the city a part of two lots to be used in establishing street connections and continuing thoroughfares now closed.

**Dallas, Tex.**—Street Commissioner Doran is favoring the paving of some of the residence streets in East Dallas, where the black-waxy soil prevails, with petrolithic pavement; a short section of Haskell avenue has been treated with this method; the Deere Park Improvement League is discussing paving matters in connection with Commissioner Doran's suggestions relating to paving, and it was decided to await the outcome of the Haskell avenue paving project before taking any definite action.

**Fort Worth, Tex.**—The Tenth Ward Civic League, through E. J. Hovey, President, has filed with the City Secretary a list of 24 property owners on Lipscomb, Page and Jessamine streets, in front of whose property sidewalks are to be built; Commissioner Davidson has served the usual notice that unless sidewalks are constructed within 30 days the city will construct them and charge the property owners; Lipscomb street curbing will also be laid.

**Galveston, Tex.**—Commissioner Austin has submitted an estimate of the cost of surfacing Avenue E, or Church street, with mudshell from Twenty-sixth street (the present terminus of the pavement on said street) to the east line of Thirtieth street to relieve Market street of considerable travel; a resolution has been passed fixing the grade of Market street from Twenty-fifth to Twenty-ninth streets, and designating the character of sidewalk and curb materials to be used thereon.

**Salt Lake City, Utah.**—Council has ordered paving extension No. 48, Eighth South, between Main and State, with asphalt; bids were ordered advertised.



**Salt Lake City, Utah.**—All bids for curb and gutter extension No. 6, bids opened on October 23, have been rejected by the Board of Public Works.—Louis C. Kelsey, City Engineer.

**Norfolk, Va.**—The Public Improvement Committee of the Councils has recommended that \$22,755 be appropriated for paving Chapel street with granite block; also that there be an annual appropriation of \$5,000 to be devoted to the gradual improvement of the streets in Brambleton ward; the Public Improvement Committee has been directed to confer with the City Engineer and present to Council an estimate of costs for paving Omohundro avenue from Eleventh street to the Norfolk and Western Railroad tracks, and Twelfth street from Colonial avenue to Princess Anne; committee also recommended an appropriation of \$4,500 for the Langley and Armistead bridge roads; Finance Committee has approved appropriation of \$11,000 for the unimproved portion of Graydon avenue.—W. T. Brooke, City Engineer.

**North Yakima, Wash.**—The Harris Trust & Savings Company, of Chicago, has purchased \$80,000 North Yakima street improvement bonds at a premium of \$435.

**Seattle, Wash.**—Finance Committee has ordered the grading of Lafayette place; planking Fifteenth avenue West; walks on Sixth avenue Northeast; walks on Pasadena place; planking on Seventeenth avenue South; walks on Keystone place; walks on Fifty-seventh street.—R. H. Thomson, City Engineer.

**Tacoma, Wash.**—Council has received ordinances for improving seventeen streets.

**Tacoma, Wash.**—Council has adopted resolutions for improving five streets.

**Vashon, Wash.**—The Vashon Improvement Club is urging the making of a separate road district in Vashon Island; it is planned to first complete the county road from end to end of the island and then to build several new cross roads.

**Charlestown, W. Va.**—Council has passed resolution declaring it necessary to improve in a permanent manner the following named streets by paving with brick, asphalt block, creosoted wood block, granite stone block, concrete, cement block, asphalt, bitulithic, macadam, or other substantial material: Kanawha street from Court street to Capitol street; Donnelly street from Capitol street to Court street; Delaware avenue from Charleston street to Randolph street; Virginia street from Elizabeth street to Duffy street; Quarrier street from end of present pavement to Elizabeth street; Lee street from Morris street to Elizabeth street; Ruffner avenue, from Kanawha street to Washington street; Elizabeth street from Kanawha street to Washington street; Summers street from Kanawha street to Postoffice gate; Fayette street from Pennsylvania avenue to Delaware avenue; Pennsylvania avenue from Charleston to Columbia boulevard; Laidley street from State street to Donnelly street; Virginia street from Court street to McFarland street; Virginia street from present paving at its western terminus, below Ohio avenue, to Kanawha & Michigan railroad; Truslow street from Virginia street to State street; Bullitt street from Welch street to Spring street; Fry street from Capitol street to Shrewsbury street; Broad street from Kanawha street to Virginia street; Bigley avenue from Kanawha and Michigan railroad to Ash street; Spring street from Bullitt street to Elk street; Summers street from Dryden street to Donnelly street; Slack street from Spring street to Capitol street; Spring street from Bigley avenue to Elk River bridge; Donnelly street from Court street to Elk River.—W. A. Hogue, City Engineer.

**Martinsburg, W. Va.**—City Council has passed ordinance for paving West King street from the Public Square to College street; notices have been sent to the property owners by City Clerk Leiter to lay concrete sidewalks.—C. P. C. Rusker, City Engineer.

**Green Bay, Wis.**—Council has instructed W. W. Reed, City Engineer, to prepare plans for paving sundry streets.

**Milwaukee, Wis.**—City officials have investigated bituminous macadam at Whiting, Indiana Harbor and Hammond, Ind., and experiments will be made with it next spring. Those who made the trip were City Engineer Charles J. Poetsch, Commissioners J. P. Sherer, L. A. Jansen and A. J. Grundman, Park Commissioners Anton Tomkiewicz and Henry Weber, City Treasurer V. J. Schoenecker, Ald. Fred C. Fass and Ald. William F. Kane.

**Racine, Wis.**—The Board of Public Works has been instructed to prepare plans and advertise for bids for repaving with asphalt Main street, from Sixth to Fourteenth street.—P. H. Connolly, City Engineer.

**Beamsville, Ont.**—The Ontario Railway Company and Municipal Board has authorized this city to expend \$11,000 for the construction of granolithic sidewalks.

## SEWERAGE

**Tucson, Ariz.**—Council has passed ordinance for a 10-inch sewer in Seventh street from First avenue to alley near Sixth avenue, thence to Sixth street, thence to alley near Eighth avenue; also for an 8-inch lateral sewer in alley between Second and Third avenues from Sixth street to Seventh street and one in Kennedy street from Main street to Stone avenue.

**El Centro, Cal.**—Bids will be received by the Board of Trustees December 8, 6 p. m., for the sale of septic sewer bonds for \$40,000.—H. P. Pearson, Jr., City Engineer.

**Watertown, Conn.**—Town is agitated over question of sewer system.

**Washington, D. C.**—Commissioners have ordered extension of a trunk sewer in Arkansas avenue, at an estimated cost of \$7,000, and the laying of a sewer in Thirteenth street northeast, between Girard and Hamlin streets, and in Hamlin street west of Thirteenth street; estimated cost, \$4,000; also sewers in Rosedale street, northeast, between Eighteenth and Nineteenth streets; A street, southeast, between Thirteenth and Fourteenth streets; Ninth street, northwest, between Taylor and Upshur streets, and School street, northwest, between Lamont and Irving streets, and service sewer in K street, northeast, between Eighth and Ninth streets.—Asa Phillips, Superintendent of Sewers.

**Takoma Park, D. C.**—Dr. H. M. Bennett has reported that estimates have been prepared for the hydraulic lift on Eastern avenue, in order to provide sewer facilities for the residents on Oak and Eastern avenues.

**Clearwater, Fla.**—City will vote in December on issue of bonds for sewer and water works; J. P. Little, Chairman, Street Commissioners.

**Athens, Ga.**—Council has disposed of the \$75,000 issue of city water works and sewer bonds; order for material for the new sewer lines will be forwarded and as soon as the material arrives the work of laying the new sewer mains will be started.

**Belleville, Ill.**—Plans have been prepared for the Irish Pond sewer system; there will be required 5,500 feet of 12 to 24-inch vit. clay pipe sewers; cost, \$11,190.—Fred. Deutschmann, Jr., City Engineer.

**Quincy, Ill.**—Plans are prepared for sewer system in North End; cost \$53,997.

**Indianapolis, Ind.**—Plans are being made by Charles A. Brown, Assistant City Engineer in Charge of Sewers, for the last link in a complete system of sanitary sewers in Riverside place; new portion will be about three miles long and cost from \$12,000 to \$15,000; it will connect with the Harding street sewer at Crawfordsville road and will run east to Hiawatha street, north to the first alley north of Indiana avenue, west to Gent street and will have branches in the alleys east of Gent, Montcalm and Milburn streets; plans will be sent to the Board of Public Works for approval within the next few days.

**Shelbyville, Ind.**—City has received plans for a general sewerage system; a large trunk sewer will cost \$50,670.36; sanitary sewers, \$79,841.32; three storm sewers, \$42,536.60, and machinery to operate sanitary sewer, \$27,904.48; company drawing plans say complete sewers, sanitary and storm, could be built for \$140,000.

**Leavenworth, Kan.**—City Engineer A. Maduska is preparing plans for district sewer No. 9, consisting of 5,000 feet of 10 and 15-inch pipe, for the city; cost, \$6,000.—J. H. Kirmeyer, City Clerk.

**Franklin, Ky.**—Plans are wanted for a sewerage system for which \$20,000 bonds have been voted.—J. H. Covington, Mayor.

**Topeka, Kan.**—City Engineer J. P. Rodgers has prepared preliminary plans for three vitrified pipe and concrete district sewers for the city; cost, \$40,000, \$30,000 and \$3,000, respectively; bids will be received in the spring.—C. B. Burge, City Clerk.

**New Orleans, La.**—Bids will be advertised for the \$8,000,000 issue of sewerage and water bonds.

**Monson, Mass.**—The presence of engineers, who are making a survey for the Committee on Sewers, has aroused much interest in this question; town has no system of sewers, and it generally agreed that the construction of a system cannot be much longer delayed.

**New Bedford, Mass.**—The City Engineer has reported on the cost and method of construction of the sewer in Grant street, between Rockdale avenue and Jenny Lind street, and in Clifford street from Acushnet avenue to Bowditch street; the cost of the Grant street sewer he estimated at \$1,200, and of the Clifford street, \$4,800; the latter sewer will require a connection with the north end system built last year through Acushnet avenue; the Board ordered the sewers built.

**Baltimore, Md.**—Calvin W. Hendrick, Chief Engineer of the Sewerage Commis-

sion, will endeavor to have the temporary system completed at Forest Park within a year; plans, which call for the erection of a temporary disposal plant, with the necessary pipe connections, have been prepared. One of the first things that the city will have to do is to acquire the necessary right of way for the sanitary pipes, and a site for the pumping station; temporary system will cost between \$100,000 and \$150,000.

**Grand Rapids, Mich.**—The Board of Public Works has estimated cost of sewer in Lawn court, \$296; sewer in Front street, \$926; sewer in Canal alley, \$1,430.—S. A. Freshney, Secretary.

**Ionia, Mich.**—The citizens have voted \$17,000 bonds for constructing sewers; plans and specifications have been prepared.—Fred M. Cook, City Clerk.

**Menominee, Mich.**—The citizens have voted to issue \$30,000 of bonds for sewers and street improvements.—Albert Hass, of Menominee, Engineer.

**Litchfield, Minn.**—All bids have been rejected for laying 4,600 feet of 10-inch drain tile.—John Rodange, Village Recorder.

**Clarksdale, Miss.**—All bids have been rejected for the construction of about 1½ miles of 8-inch house sewers, ¾ mile 6-inch water mains, including hydrants and valves, also reservoir, about 80 feet long, 55 feet wide and 9 feet deep, with metal shingle roof; work will be done under supervision of Walter G. Kirkpatrick, Engineer, Jackson, Miss.—M. W. Purcell, City Clerk.

**Kansas City, Mo.**—City Engineer J. L. Darnell is preparing plans for a concrete flood gate, 19x19 feet, at the Lydia avenue sewer; cost, \$6,000.—W. E. Winstanley, Purchasing Agent.

**Lincoln, Neb.**—Estimated cost of reconstructing storm sewer on N street from Seventh to Ninth street, \$15,500.—William Grant, City Engineer.

**Newark, N. J.**—Cost of repairing Peddie street sewer is estimated at \$6,000.—Ed. S. Rankins, Engineer.

**Flatbush, N. Y.**—The Flatbush Board of Trade has received a report as to why the needed sewers in the vicinity represented by the Board were not being built; Chief Engineer Fort has reported that the sewer that the Board hopes to have built through Avenue J will be an expense to the city of at least \$140,000; before this plan can be carried out many smaller and less expensive improvements will be authorized by the Board of Estimate and Apportionment.

**Deposit, N. Y.**—The construction of a sewerage system and sewage disposal plant is under consideration; correspond with an engineer with regard to making preliminary surveys, plans and estimates.—C. Onderdonk, Village Clerk.

**Hornell, N. Y.**—The report of T. M. Horton, Chief Engineer of the State Board of Health, recommended that the city of Hornell must file specifications of a sewage disposal plant that will take care of the city sewage and the industrial waste from factories with the State Board by February 1, 1909; erection of a sewage disposal plant will cost in the neighborhood of \$400,000; Mayor says that the plans of the plant will be filed with the State Board by February 1, 1909.

**Syracuse, N. Y.**—Engineering Department is preparing plans for 12-inch sewer in Newell street from Engine to Howk street; cost \$2,300; and an 8-inch sewer in Howk street, cost \$1,660; total \$3,960, of which the city's share will be about \$1,300.

**Wilmington, N. C.**—Bids will be received December 7 for the purchase of \$400,000 4½ and 5 per cent sewer bonds.—John J. Fowler, City Treasurer.

**Cleveland, O.**—Council has received ordinances for four sewers, also appropriated \$1,000 additional for constructing sewer in Morgan avenue.—Peter Witt, Clerk.

**Dayton, O.**—The State Board of Public Works has granted the Servers permission to lay sewer connections under the canal at Caldwell street and other points.

**Kenton, O.**—A sewage disposal plant will have to be built in this city; the State Board of Health has taken up this matter.

**Middletown, O.**—City Engineer McElree states that sewers must be constructed to meet existing grades on a number of streets; the Engineer has been authorized to prepare estimates on a number of engineering improvements, including sewers and important grading work, bids on which will be invited as soon as plans are prepared.—John L. Blaire, President, Board of Public Service.

**Newark, O.**—The City Engineer has been requested to review the old plans for a sewerage system which will cost about \$300,000; it is thought that a number of changes will be made.

**Toledo, O.**—Bids will be received November 27 for furnishing material and constructing sewers known as 1,051, 1,054, 1,056 and 1,058.—R. Volt, Secretary, Board of Public Service.

**Cherokee, Okla.**—Citizens are discussing the construction of a sanitary sewer system at a cost of \$40,000.

**Holdenville, Okla.**—City Engineer is preparing specifications for sewerage system. Address the Mayor.

**Altoona, Pa.**—The Board of Public Works has been authorized to accept a 10-inch private sewer in Seventeenth avenue instead of constructing a 12-inch sewer authorized; the sewer to be lowered at the expense of the abutting property owners.

**Chester, Pa.**—Bids will be received for a 4-foot sewer extension across the meadow, from the end of a sewer to the river.—W. T. Cullis, City Clerk.

**Connellsville, Pa.**—Council has received the report of the State Board of Health regulating the laying of future sewers and within a year plans and specifications will be prepared for a sewer system and disposal plant to cost at least \$10,000.

**Kittanning, Pa.**—The Sewer Committee has been given power to construct two storm sewers, one on Navigation street and one on Raccoon street, from Fifth street north to an alley; storm sewer is to be a 12-inch one.

**Beaver, Pa.**—The Sewer Committee has been given power to construct two 12-inch storm sewers, one on Navigation street and one on Raccoon street from Fifth street north to an alley.

**West Chester, Pa.**—Albert F. Damon, of Darby, an expert engineer, has been consulted in regard to the proposed plan for the installing of a sewer system and disposal plant in West Chester; those present were Fred Heed, President of Council; Edward S. Darlington, Jesse B. Jones, Marshall H. Matlack, Thomas W. Marshall and Plummer E. Jefferis, Citizens' Committee.

**York, Pa.**—Council will receive ordinance to provide for a special election next spring to vote for or against a loan of \$425,000 to complete the city's sanitary sewerage system.

**Bennettsville, S. C.**—Plans for a sewer system are being prepared by Bandy & Myers, engineers.

**Knoxville, Tenn.**—Sewer Committee of Park City Council has decided to make a preliminary survey of the proposed sewers at once; after the first report is made, the sewers will be located and then a final survey will be made and an estimate submitted; all matters pertaining to the sale of the bonds have been adjusted satisfactorily to the buyers and soon the bonds will be ready to sign.

**Fort Worth, Tex.**—Council has decided to extend a \$2,500 lateral sewer on Third and Rusk streets to the deep sewer being constructed.

**Norfolk, Va.**—Board of Control has passed resolution appropriating \$2,915 for the extension of sewerage on Maury place and Stockley Gardens.

**Seattle, Wash.**—Bids will be asked in a few weeks for construction of a sewer from a point in Puget Sound under and beyond Fort Lawton.

**West Allis, Wis.**—West Allis is to have an up-to-date sewerage system; bonds, \$90,000, have been authorized and were sold at the last meeting of the council to the Harris Trust & Savings Bank, Chicago; the plan calls for main sewers connecting with those already laid in West Allis for drainage purposes, two septic tanks and a number of lateral sewers; septic tank system, planned because of the distance from Lake Michigan, is the same system used in all inland cities; the systems are so designed that in the event of annexation to Milwaukee at a later date, the overflow can be taken care of by main sewers extended from the Milwaukee system; two separate watersheds exist in West Allis, making it necessary to have two disposal plants; western part of the city will be drained by a septic tank at Sixty-ninth and Pullen avenue; a site consisting of thirty-four lots has been purchased of Thomas J. Fleming for \$8,000; eastern and central part of West Allis will be taken care of by a septic tank at Forty-second avenue and Burnham street; a site has been purchased consisting of four and one-half acres; price \$8,500; estimated cost of the system \$100,000; the cost of the septic disposal plants \$13,000 each and the remainder will go to pay for sites and sewers; the next step will be to put the plans in shape for bids; everything will be in readiness to begin work by about May 1.—Mayor Frank E. Walsh, City Engineer Schneider.

**Ladysmith, B. C.**—An election will be held to vote on issuing \$50,000 bonds for the construction of a sewerage system.

## WATER SUPPLY

**De Queen, Ark.**—The city has issued \$25,000 in bonds to establish a water works system.

**Leslie, Ark.**—The city will establish a water works system.

**Russellville, Ark.**—Russellville Ozark Mountain Light and Traction Company has

been reorganized as Russellville Light and Water Company, by A. Brewster, C. S. Bacon, Pine Bluff, Ark., and others; a \$100,000 water and light plant, to be operated by water power from Illinois River, will be constructed.

**Yuba City, Cal.**—According to the plans and estimates of Engineer McMurtry, the new water works plant for Yuba City, to be owned and operated by the municipality, will cost more than \$30,000 when completed; Trustees have adopted his specifications and made the order to advertise for bids on the work; supplying of the pipe, the laying of the same and the furnishing and installing of the tank and tower will each be treated as a separate contract; tower will reach a height of 119 feet.

**Boulder, Col.**—A plat and statement has been filed with the County Clerk for the McCaslin reservoir, which will be located in Gifford gulch, a tributary to the St. Vrain River, and will impound 2,379,603 cubic feet of water; dam will be 28 feet high; estimated cost, \$18,000.

**San Francisco, Cal.**—The municipal water supply project, commonly known as the Hetch Hetchy supply, carried at the recent election, and the issuance of \$600,000 bonds to purchase site for the reservoir was also authorized.

**Greeley, Col.**—Eagles Nest reservoir, owned by S. Sanford, of Hardin, is to be enlarged; cost, \$137,000.

**Waterbury, Conn.**—The Board of Public Works has recommended an appropriation of \$9,000 included in the estimates of January, 1909, for the water main in Baldwin street.—R. A. Cairns, City Engineer.

**Bridgeport, Del.**—Citizens have decided to install water works jointly with the organization of a fire company and the purchase of fire-fighting equipment; engineer will be secured to compute the cost of a plant and a committee was formed with H. L. Cannon, Chairman, and W. B. Truitt, Secretary, to proceed with the project.

**Washington, D. C.**—Commissioners propose to lay 435 feet of 8-inch water main in the south side of Bryant street between First and North Capitol streets, northwest, and 85 feet of 8-inch water main in the south side of Butternut street west from Sixth street northwest, and 505 feet of 8-inch water main on the south side of L street between Eighteenth and Nineteenth streets, northwest.

**Athens, Ga.**—The Water Works Committee has recommended that a 230-h.p. electric pump be purchased at once; it has been decided to recommend the purchase of four new filters, so as to increase the filter capacity of the plant to 2,400,000 gallons per day; the erection of a 3,000,000-gallon coagulating basin was also decided upon; the Committee has decided on work that will call for the expenditure of at least \$33,000 of the \$35,000 bond issue, including additional water mains, some of which have been laid.

**Colfax, Ill.**—Village Board is discussing the installation of a water works system.

**Pekin, Ill.**—The Cemetery Association has decided to extend the city water supply to Lakeside Cemetery and install a system of hydrants there; 2,000 feet of 2-inch galvanized pipe will be laid and the improvement will cost approximately \$500; it is hoped to have the pipe laid this winter and the system in readiness for use next spring.

**Waverly, Ia.**—Citizens have voted to issue \$30,000 bonds for the purpose of rebuilding water and light plant.—Address City Clerk.

**Wichita, Kan.**—Bids will soon be received for the construction of a concrete dam across Little Arkansas River.—Bert C. Wells, City Engineer; R. N. Dorr, City Clerk.

**Newport, Ky.**—The citizens have voted for water works improvements to include the construction of a standpipe, etc.—W. L. Glasier, Superintendent of Water Works.

**Newport, Ky.**—Proposed improvements to water works will cost about \$85,000; bids for the bonds will be received January or February.—W. L. Glasier, Superintendent of Water Works.

**Baltimore, Md.**—City will have a filtration plant attached to the proposed water system; Water Engineer Quick has provided for one in his tentative plans, and believes the \$5,000,000 loan will allow it.

**Shelburne Falls, Mass.**—A gravity water supply is under consideration.

**Springfield, Mass.**—The Board of Water Commissioners has introduced an ordinance providing for the appropriation of the remainder of the \$2,000,000 authorized by the General Court for the development of the Little River water supply; last of the \$540,000 already appropriated will be spent this month; remainder, \$1,460,000, will be paid out during the next year.

**Carsonville, Mich.**—The town is considering the construction of a system of water works; \$5,000 of bonds has been voted; plans not decided on.—A. R. Niles, Town Clerk.

**Detroit, Mich.**—The Board of Water Commissioners has rejected all bids for approximately 3,650 tons of c.-i. water pipe, ranging in size from 6-inch to 24-inch; also for 788 water-gate valves, ranging in size from 4-inch to 48-inch, and for 300 testing boxes, ranging in size from 6-inch to 12-inch.

**Grand Rapids, Mich.**—The Board of Public Works has adopted plans and specifications for a new 20-inch water main that will be laid across Grand River to the west side from Coldbrook street to Eleventh street; work will be advertised during the next two weeks that the big main may be laid this winter and completed before April 1; when the flood protection between Fulton street and Wealthy avenue is started next year the river near the Fulton street bridge will necessarily have to be dredged; in order that the West Side might be adequately supplied, it has been decided that the construction of the big 20-inch main supply was imperative; plans and specifications that had been prepared were accepted and bids ordered for the work, such bids to be received during the next two weeks. Proposals on 1,000 water meters to be furnished for one year are wanted by Board of Public Works.

**Norway, Mich.**—Engineers Alvord & Burdick, 140 Dearborn street, Chicago, are preparing plans and specifications for a \$60,000 gravity system of water works for the Department of Public Works; will probably be advertised for in the spring.—Gordon Murray, Chairman.

**River Rouge, Mich.**—The Village Trustees have decided to expend \$25,000 in water main extensions.

**International Falls, Minn.**—W. C. Frazier, of Rochester, Minn., has been commissioned to prepare plans for water system.

**Cambridge, Neb.**—Council has directed estimates to be prepared for \$20,000 water system.

**Carl Junction, Mo.**—The Michel-Cook Engineering and Construction Company, of Joplin, are preparing plans for the construction of water works; estimated cost, \$20,000.

**Kansas City, Mo.**—Engineer Wynkoop Kiersted has prepared plans for steel pipe connections, additional machinery, etc., for connecting pumping plant with Quindaro settling basin for the city; cost, \$58,000.—W. E. Winstanley, Purchasing Agent.

**Kansas City, Mo.**—The pumping capacity of the Turkey Creek pumping station will be increased by the installation of an 18,000,000-gallon pump; Fire and Water Board has authorized W. G. Goodwin, Engineer, to prepare plans and specifications for the pump; estimated cost, \$115,000.

**Auburn, Neb.**—Burns & McDonnell, of Kansas City, Mo., are preparing plans and specifications for water works and sewers; election will soon be held to vote on the question of issuing bonds for same.

**Cambridge, Neb.**—Bonds have been voted for the erection of water works.—Address City Clerk.

**Wilmington, N. C.**—Bids will be received December 7 for \$400,000 water and sewerage bonds.

**Collingswood, N. J.**—The Borough Council has authorized the Water Commissioners to contract for a test well, with a view to establishing water works.

**Newark, N. J.**—City Counsel Nugent, Comptroller Bacheller, Auditor Forman and Chief Engineer Sherrard have agreed to ask the Common Council to authorize the Comptroller to sell permanent bonds of the city to the amount of \$50,000, the proceeds to be used for the extension and enlargement of the water mains in various sections of the city; it is planned to lay larger feeders and connections to fire hydrants, and also to replace the small single nozzle hydrants with plugs having two or more nozzles.

**Auburn, N. Y.**—The Water Board is considering the construction of a filtration plant.

**Buffalo, N. Y.**—Council has granted petition of the Penhurst Park Company to lay water pipes on proposed new streets on both sides of the company's property, which is located between Forest avenue and Delaware Park; petition asks that the Water Bureau be directed to lay the pipes, the company to deposit with the city the cost of the work, the money to be refunded to the company when the street is finally deeded to the city.

**Canastota, N. Y.**—Consulting Engineers Knight & Hopkins, 101 West Dominick street, Rome, N. Y., have been retained to prepare plans for a storage reservoir for the Board of Water Commissioners, S. H. Stroud, John Duignan and A. E. Dew, Canastota; preliminary estimates will be made and the proposition submitted to a vote.

**Lockport, N. Y.**—The Manufacturers' Association has charge of plans to take care of the water supply of the Eighteen Mile Creek during the time that work will be in



progress on the lower level of the canal this winter by the Empire Engineering Company, of New York City, and the Association proposes constructing a flume or tail race from a point above the locks to the head of Eighteen Mile Creek near Cady dry dock.

**New York, N. Y.**—Board of Water Supply is readvertising the contract for the construction of the syphon tunnel under the Walkill River for the new \$200,000,000 Catskill water supply system; bids will be opened December 1. This is the contract the S. Pearson & Son Company lost through the Board last May. The company bid \$3,304,000, and MacArthur Brothers \$4,302,163. The Board threw out all bids, on a protest by labor interests. When the bids for the Ashokan dam were opened a year previously, John Pierce bid \$10,315,775, and MacArthur Brothers \$12,669,775. The Board forced Pierce out and awarded the contract to MacArthur Brothers.

**Weldon, N. C.**—Council is considering the matter of establishing water system.—D. E. Stainback, Clerk.

**Barberton, O.**—Council has instructed the engineer to draw plans and specifications for the extension of the West End water works and the City Solicitor is preparing the necessary legislation for issue of \$20,000 bonds.

**Coalton, O.**—State Board of Health has approved the plans drawn for a water works.

**Cleveland, O.**—Charles H. Patton, manager of the Cleveland Inspection Bureau, is urging the need of a high-pressure pumping station to supplement the advantage of the new water mains which were laid more than a year ago. A pumping station at the foot of East Ninth street to be used exclusively for the high-pressure mains is desired.

**Dayton, O.**—City Engineer Cellarius has submitted to the Service Board his plans, specifications and estimates for the improvement of the dam, and the Board at once instructed its clerk to advertise for bids to get the work done; he estimates that the total cost will be \$9,763; estimated cost for the extension is placed at \$6,503, and for the repairs to the old dam, \$3,290; extension is to be built of timber and earth.

**East Liverpool, O.**—Specifications for the new filtration plant are about ready.—J. C. Kelly, City Engineer.

**Rockport (P. O. West Park), O.**—Bids will be received until December 1 for \$9,000 bonds, proceeds to be used to extend the water mains.—Fred Feuchter, Village Clerk.

**Springfield, O.**—Chief Engineer M. J. Bahin states that the Engineering Department is about to take steps to protect the water pipes.

**Cherokee, Okla.**—Water works, \$25,000, is under consideration by the city.

**Granite, Okla.**—City has voted \$20,000 of bonds for construction of water works.—E. H. Davenport, Town Clerk.

**Weatherford, Okla.**—City will extend water works and construct electric light plant; water capacity, 200,000 gallons daily; will install new equipment.—W. K. Cunningham, City Clerk.

**Altoona, Pa.**—Common Council has passed ordinances providing that the question of increasing the city's indebtedness for the purpose of continuing the work on Lake Altoona be submitted to the people at the spring election; also providing for water mains in Twenty-fifth avenue, between Tenth street and Wopsonnock road, and in Twenty-fourth avenue from Ninth to Fifth streets.

**Allentown, Pa.**—A reservoir will be constructed at once on the Black Creek about two miles south of the Blackwood colliery in Schuylkill County.

**Ashland, Pa.**—The Town Council has decided upon the construction of a reservoir; capacity, 6,000,000 gallons.

**Beaver, Pa.**—Council has passed a motion to the effect that the matter of hearing the report on the bids for pumps be placed on the table.

**Bethlehem, Pa.**—The Borough Council is discussing the calling of an election to vote on the question of issuing \$175,000 bonds for the construction of water works.

**Catasauqua, Pa.**—Town Council has selected Bascom & Sieger, of Allentown, to prepare plans for water works; cost, about \$80,000.

**Harrisburg, Pa.**—Council has authorized the sale of the bonds to meet the cost of the new intake pipe and improvements to the water system to Henry & West, of Philadelphia.

**Kittanning, Pa.**—Captain Stewart, Chairman of the Water Committee, has stated that his committee has recommended the adoption of an ordinance calling for the repair of the present Water Works and the placing of meters in town; also committee recommended that nothing be done with the bids taken at the last meeting of Council at the present time; another first matter considered was the application of Mr. Mercer for the extension of the water main

on Sharon avenue; referred to the Water Committee.

**Lebanon, Pa.**—The Water Board has reported favorably the bill appropriating \$22,000 for the enlargement of Dam No. 2 at South Mountain.

**Pittsburg, Pa.**—Four hundred and fifty thousand dollars is about to be placed in circulation by the city for water and park improvements; \$300,000 will be expended for the extension of the water mains in the section of the city east of the Highland reservoir and \$150,000 will be devoted to improvements in the different public parks; Public Works Director Shepherd expects to have the water mains extended through Brushton before the end of next spring; upon the completion of the work the whole East End section will be provided with filtered water.

**Seneca, S. C.**—Citizens have voted to issue \$25,000 bonds for the construction of water works and an electric light plant.—D. W. F. Austin, Chairman, Board of Public Works.

**Ft. Meade, S. D.**—A more adequate water supply is needed for army purposes.—Address Quartermaster.

**Memphis, Tenn.**—The Upper Board has passed on first reading the ordinance which recently passed the Lower Board, providing for the sale of \$1,009,500 of water bonds, bearing 4 per cent. interest, and ordering their advertisement.

**Paris, Tex.**—City is considering installation of filter system with daily capacity of approximately 1,000,000 gallons.—Ed H. McCulston, Mayor.

**Norfolk, Va.**—Board of Control has passed resolution appropriating \$1,323 for the extension of the water main on Maury place and Manteo street.

**Renton, Wash.**—The citizens have voted in favor of issuing \$23,000 of bonds for the construction of a new water system.

**Tacoma, Wash.**—Commissioner McGregor has asked Council to increase the reservoir capacity of the city and to improve the service in other ways; besides increasing the reservoir capacity the Commissioner also proposes to expend \$8,000 in running a transmission line to Station C as an encouragement to the bidding power company to offer a low rate on the power for the plant; Council has passed an ordinance authorizing the exchange of five lots for three adjoining the Alaska street reservoir.

**Tacoma, Wash.**—Council has adopted resolution instructing the Superintendent of Public Works to have the Superintendent of Water Works prepare plans and specifications for necessary pumping machinery, etc., for a distributing system for the high service and increasing the reservoir capacity at station C.

**Winlock, Wash.**—Bonds will be issued to install a water system for the town to cost approximately \$15,000; water will be taken from Olequa Creek and will be forced into an elevated reservoir by means of a huge hydraulic ram; Engineer W. H. Allen, of Chehalis, will have charge of the work.

**Pennsboro, W. Va.**—The city will establish a water works system to cost \$22,000.

**Parsons, W. Va.**—The citizens have voted \$30,000 water and sewerage bonds.

## LIGHTING AND POWER

**Birmingham, Ala.**—Yolande Coal and Coke Company, G. B. Crowe, President, will construct power plant to supply North Birmingham and adjacent cities with light.

**Fresno, Cal.**—The managers of the Fresno-Hanford interurban line have decided to generate their own power for running cars and a plant is soon to be started near Kingsbury; work on the construction of the buildings will commence at once.

**Sacramento, Cal.**—The Great Western Power Company, San Francisco, has secured an option on a site at Eighth and R streets, for proposed power distributing plant, supply station and repair shop; main transmission line will be tapped at Perkins, where sub-station will be built; transmission lines of the company will be placed underground in the business section of the city.

**San Francisco, Cal.**—Properties on the American and Cosumnes rivers owned by W. H. Tevis and recently offered to the city for a municipal water supply are to be developed for the production of electric power; engineers are still at work on the matter; properties have been released from the contract with the Bay Cities Company, and they will be developed for power.—C. N. Beal.

**Colorado Springs, Col.**—George L. Bullock has purchased from Geo. A. Taft the control of the Empire Water Company and will expend about \$500,000 in improvements, including the construction of new power house and extension of pipe line.

**Washington, D. C.**—The Commissioners have ordered that two concrete lamp pedestals be placed on the north approach to the Connecticut avenue bridge, at a cost not to exceed \$200.

**Washington, D. C.**—Bids will be received at the office of the General Purchasing Officer, Isthmian Canal, for purchase of generator, engines, etc.—F. C. Boggs, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

**Augusta, Ga.**—Messrs Edward Morse and Wm. Morse, well-known capitalists of Boston, have become associated with Hugh McRae & Co., of Wilmington, N. C., and have secured possession of some eight or ten shoals on the Savannah and Tugaloo rivers; it is understood that the visit of these capitalists has something to do with the development of these various water powers; this concern has control of about 100,000 horsepower on these rivers yet undeveloped.

**Wadley, Ga.**—R. L. Perkins has secured franchise to operate electric light plant and water works, furnishing light and water; Wadley Yellow Pine Company's plant has been leased; light and power will be generated at his mill near Wadley.

**Sandpoint, Ida.**—Contracts will be let in January for a power plant to be built here at a cost of \$400,000; water-wheels, dynamos, switchboard, transformers (60,000 volts), water-wheel governors, high voltage insulators, etc., will be required; power will be supplied by the Moyea Falls.—H. M. Byllesby & Co., Monroe street, Chicago, Engineers; J. F. Raymond, Manager of the Rend d'Orville Electric Company.

**Chicago, Ill.**—Wanted generator, 60 to 100 kilowatts, D. C., 250 volts of standard, modern make.—Address W. N. 31, Tribune.

**Saunemin, Ill.**—The Saunemin Gas Company has been incorporated with \$7,500 capital by H. M. Righter, I. M. Lish, and others; an acetylene gas plant will be built for public and private heating and lighting.

**Tremont, Ill.**—The question of issuing \$7,000 in bonds for the construction of electric lighting plant will be submitted to a vote of the people.—Address City Clerk.

**Hartford City, Ind.**—Henry Charles, of Marion, Ind., has plans for construction of a gas plant in this city.

**Evansville, Ind.**—The Evansville Gas & Electric Light Company will expend probably \$400,000 if not half a million on extensions, equipment and improvements; the company will erect a new gas holder at the gas works, Pennsylvania street and Fifth avenue, at a cost of \$350,000; a new turbine dynamo will be installed at the electric light plant, Main and Division streets; extensions and alterations in the gas mains of the city, involving the expenditure of nearly \$100,000, will be made; new work will be installed and ready for use by the beginning of 1910; preparations will be begun within two months and actual work will begin early next year.—General Manager, W. B. McDonald.

**Newcastle, Ind.**—Ambrose Petry, a wealthy Detroit man, who is heavily interested in the Light, Heat and Power Company, with H. L. Olds and M. O. Straight, who are associated with him, are looking over the plans for the establishment of an artificial fuel gas plant in this city; plant will be completed and in operation by early spring.

**Cedar Rapids, Ia.**—The Cedar Rapids and Iowa City Railway and Light Company has had a survey made for a power plant to be located at Palisades, and has brought an action in court to condemn land overflowed; dam will be built 16 miles down the Cedar River from this city, 20 feet high; plant will be operated by water, supplemented by steam; power will be used to operate the street railway system, owned by the company, and for lighting.—J. D. Wardle, Cedar Rapids, Superintendent.

**Davenport, Ia.**—The People's Light Company is preparing its estimates for next year's work and extensive improvements are contemplated in Davenport; estimates call for the expenditure of about \$200,000 in this city; several extensive improvements will be made at the gas plant that will cost thousands of dollars; several miles of new mains will be built during the year; extensions have been asked for in numerous places by the residents and the company is preparing to build them; improvements are also contemplated in Rock Island and Moline and the estimates are also being prepared for the work to be done there.

**Davenport, Ia.**—Council has received petitions for several lights.

**Hedrick, Ia.**—The Carson-Foster Gas Company, of North English, has sold the Hedrick gas plant to J. S. McDougall, who will improve the plant.

**Keokuk, Ia.**—The Keokuk & Hamilton Water Power Company has been reorganized; work will be started at once, and take a year to complete; cost, \$15,000,000. Hugh L. Cooper, 60 Wall street, New York, Vice-president and Engineer.

**Newton, Kan.**—Messrs. A. M. Rose and Olcott Payne, of New York, who are interested in gas and electric light properties in various parts of the country, expect to ask

for a franchise to locate an electric light plant to furnish power in Newton and territory for domestic use and for the operation of trolley cars; cold storage system will be incorporated in connection with plant.

**Ottawa, Kan.**—Geo. P. Washburn & Son, of Ottawa, have been selected to prepare plans for a one-story addition, 20x40 feet, to the building at the water and light plant; the Secretary of the Water and Light Board has been instructed to procure prices on new and second-hand 100-kw. generators.

**Greenville, Ky.**—The Greenville Light & Water Company has voted \$12,000 bonds and will extend its lighting circuits.

**Winnfield, La.**—City will construct electric light plant.—H. W. Wright, Superintendent.

**Federalburg, Md.**—The Idlewild Electric Light & Power Company has been incorporated to develop water-power properties and effected permanent organization; Directors, John F. Disharoon, J. B. Wright and E. E. Goslin.

**Shrewsbury, Mass.**—Electric light bonds to the amount of \$16,000 have been sold.

**Springfield, Mass.**—Board of Trade Committee on Public Improvements is considering needed improvements in the street lighting system, with special reference to Main street.

**Winchendon, Mass.**—The Winchendon Electric Light and Power Company, at Centerville, will make repairs which include the construction of a flume 16 feet deep and 19 feet wide; a new concrete dam, 105 feet long and 12 feet wide; power-house is to be built on the banks of Millers River, which will be operated as an auxiliary to the present electric plant; cost of the work \$10,000, and will increase the output of the plant about 350-horsepower; company will furnish electricity to operate the new chair factory of Brown & McColey.—W. M. Whitney, President.

**Bellevue, Mich.**—After over a year of municipal darkness the Council has granted a franchise to the Michigan Power Company to light the city streets; company will also furnish power to private residences and factories.

**Moorehead, Minn.**—Peter Prins, city, and George Van Sickle, of Fargo, N. D., are the organizers of a \$50,000 company which will undertake the establishing, building and equipping of power plants in the Northwest; the officers of the corporation are Peter Prins, President, and A. M. Van Sickle, Secretary and Treasurer; they will begin at once the installation of a light and power plant at Lakota, N. D.

**Redwood Falls, Minn.**—Arrangements have been made by A. C. Burnmeister for the construction of a hydro-electric plant at a cost of about \$20,000; equipment will include two 100-kw. alternating-current generators and water wheels.

**St. Paul, Minn.**—The proposed amendment to empower Council to let the contract for lighting the streets for five-year periods and to let the contract in advance of the making up of any year's budget has failed. Under the present charter Council can let a contract for one year only, which practically gives the firm now having the contract a monopoly because of the inability of any new concern to install a complete lighting system in the few weeks intervening between the time of letting the contract and January 1 following, when the contract becomes effective.

**New Albany, Miss.**—Bids will be received until December 1 by the Mayor for \$10,000 bonds, the proceeds to be used to purchase machinery for the city water and light plant.—G. S. Mitchell, City Clerk.

**Monett, Mo.**—Electric Light, Power and Ice Company has decided to install a day circuit; cost, \$7,000.—C. W. Copeland, Secretary.

**Willow Springs, Mo.**—J. Samuel Brown, Nevada, Mo., has purchased plant of Willow Springs Electric Light and Water Company, and, it is reported, entire system will be reconstructed.

**Carson City, Nev.**—Louis A. Thomas, a well-known mining man and who is interested extensively at Jumbo and also now has the lease and option on the Myers-Stauts property at Dry Lake, has asked for a 50-year franchise for a gas plant in this city; proposed franchise was referred to the District Attorney, who will report to Board of City Trustees.

**Hoboken, N. J.**—The Town Improvement Association of West Hoboken has ordered the Committee appointed to get additional information, which will be used next spring when the town's present contract at \$100 per light expires.

**Tuckerton, N. J.**—The Tuckerton Manufacturing Company may erect an electric light plant and make a bid for the lighting of the town, now lighted with gas.

**Buffalo, N. Y.**—The Aldermanic Committee on Finance has voted to report in favor of the resolution directing the Corporation Counsel to draw up an act requesting the

next Legislature to authorize the city to issue ten-year bonds for \$37,500 as the city's share of the bill toward installing a new lighting plant in the City and County Hall; estimated cost \$75,000.

**Copenhagen, N. Y.**—The Village Trustees have granted Stephen R. Cleveland, of Wattertown, a franchise for an electric light plant.

**Danville, N. Y.**—Stockholders of the Danville Electric Company have decided to establish an electric light plant at that place at once.—C. T. Meadows, Manager.

**Geneva, N. Y.**—H. B. Sweet, electric engineer employed by the special Electric Committee of Council, to report on the probable cost of a municipal pole line has submitted his report, which shows that a pole line can be erected for between \$25,000 and \$30,000.

**New York, N. Y.**—Plans have been filed for the construction of a two-story brick power house at Truxton avenue and Eastern Boulevard for Church E. Gates & Co.; total cost, \$50,000.—Thompkins Engineering and Contracting Company, Architects.

**Rochester, N. Y.**—City has ordered Rochester Railway and Light Company to install six arc lights.

**Syracuse, N. Y.**—The Rochester Railway and Light Company is having plans prepared for a gas plant.—R. M. Searle, General Manager.

**Syracuse, N. Y.**—The Lighting Company has been authorized to erect two poles in Salina street, four in Seward street and two in South Pleasant street; fourteen residents of Griffin and Yale streets petitioned for an electric light at the intersection of the streets.

**Charlotte, N. C.**—The Jewell Cotton Mills Company will build mills; the mill will be operated with electric power and will have motors distributed over the plant to the best advantage as demonstrated by the most modern installations and experience.

**Lakota, N. D.**—A company has been organized in Moorhead, Minn., to construct a light and power plant.—G. Van Sickle and Peter Prins, prime movers.

**Wahpeton, N. D.**—The Ottertall Power Company will commence the construction of the transmission line from the dam at Dayton Hollow to this city.

**Cleveland, O.**—The Chamber of Commerce is considering the proposition of Engineer F. A. Pease for an agreement to be effected between property owners and the Belt Line Company for the use of electricity as a motive power.

**Dayton, O.**—Councilman Welmer, of the Sixth Ward, has brought before the Council Committee of the Whole the proposition of extending Norwood avenue to National avenue, which was authorized by Council last year, but which action was rescinded by the present Council early this year; proposition was referred to the City Engineer with instructions to prepare an estimate on the cost of the improvement.

**McAlester, Okla.**—E. F. Patterson, a natural gas man now at Okmulgee, is considering the asking of a gas franchise.

**Conneautville, Pa.**—E. B. Fish and E. H. Fisher, expert electricians, are canvassing this place and Springboro with a view of organizing a company to put in an electric light plant.

**Ford City, Pa.**—Election will be held December 17 on question of borough owning its own electric light plant; Council will ask the voters to give their approval to a \$16,000 bond issue to pay for the same.

**Kittanning, Pa.**—The proposed erection of the new electric light plant in the borough of College Hill is again before the people; a double unit plant, or a plant of two engines for the lighting of the borough will be installed.

**Philadelphia, Pa.**—The Chester County Electric Company will improve its plant at Kennett square; cost, \$20,000.—E. W. Meloney, Avondale, Superintendent.

**Reading, Pa.**—Arrangements are under way by the Reading Power Company to erect a power plant near the mouth of the Wyoming Creek on Schuylkill River, near Reading; equipment will include seven steam turbines with a rating of 3,200 kw. each; the cost of the plant is estimated at \$1,500,000 and will furnish electricity for operating the electric railway system throughout the Schuylkill and Lebanon valleys.

**Chattanooga, Tenn.**—The Chattanooga-Tennessee River Power Company, which is constructing a water-power-electrical plant at Hale's Bar, will begin construction work on sub-station work in South Chattanooga soon; will contain step-down transformers to reduce voltage of current from 44,000 to 4,000 volts, and steel tower 30 feet high that will receive six transmission wires; transmission cables will be supported by 163 steel towers, placed 622 feet apart; eight miles of route has been cleared of timber; company expects to ultimately develop 56,000 horsepower.—John Bogart, Exchange place, New York, Engineer.

**Memphis, Tenn.**—Jack Apperson, representing the American Street Lighting Company, of Baltimore, Md., recently asked that the city be required to advertise for its gas and gasoline lights in future; Mayor Malone agreed that this should be done, and a resolution recommending that such lights be advertised for was adopted; the time limit was placed at a year for each contract.

**Alvin, Tex.**—Council has granted a 25-year franchise to E. B. Hill, of this city, for an electric light plant; work will be started in six months and completed within 12 months.

**Hubbard City, Tex.**—The Union Central Light and Ice Company is planning to arrange for plans, specifications and construction of the proposed electric light plant; plant will cost \$10,000 and will supply lighting and power and will manufacture ice; engines, boilers, dynamos and wire will be required.—W. A. Bass, President.

**Sabinal, Tex.**—Sabinal Water and Ice Company has increased capital stock from \$20,000 to \$28,000, and will furnish electric light and motor power.

**Terrell, Tex.**—City will construct electric light plant; \$15,000 of bonds will be issued.—Address the Mayor.

**Salt Lake City, Utah.**—City Engineer Louis C. Kelsey has submitted to City Council a report on an electric power plant at north end of Big Cottonwood conduit to utilize the fall of water from conduit to Parley's Creek reservoir of sufficient capacity to operate the electric pump being installed to pump sewage from intercepting to gravity outlet sewer; estimates of a 150-kw. power plant, \$30,000; 300-kw. plant would cost \$5,000 more; annual cost of operating the former plant is placed at \$9,000 and the latter at \$1,000 more.

**Brattleboro, Vt.**—Citizens are considering the construction of a municipal electric light plant.

**Bedford City, Va.**—City is figuring on the purchase of a water power and will probably install a plant next year for developing electricity; cost, \$60,000.—L. R. Gells, Chairman, Water Commissioners.

**Roanoke, Va.**—The Craig Water Power Company is planning to construct two hydro-electric plants, one with an output of 800 horsepower and the other 1,800 horsepower, and will erect a plant in Roanoke to furnish electricity for lamps and motors in this city; C. S. Wenges, of Brownstown, Pa., is preparing plans and specifications for the plants.—A. L. Sibert, President.

**Husum, Wash.**—The Husum Power Company is to install a plant to furnish electricity and power for all purposes; the owners, J. T. Thompson and son, Martin Thompson, already have men excavating and blasting a race below the White Salmon Falls in which a turbine of 300 horsepower will be placed; there will be a 16-foot pressure of 600 cubic feet of water per second. The new company will supply the city of White Salmon, eight miles away, with both arc and incandescent lights; power will also be furnished to the ranches in the vicinity of Husum for irrigating purposes, as well as supplying electric lights; in time a power line will be run to Trout Lake for manufacturing purposes.

**North Yakima, Wash.**—The County Commissioners have granted a franchise to Robt. E. Strahorn and the Yakima Electric Company for the erection of poles for a high-power transmission line to run from this city to Kennewick; light and power for the entire valley will be supplied.

**Seattle, Wash.**—The Finance Committee, Councilman J. T. Armstrong, W. M. Weaver and Max Wardall, representing the Thirteenth, Eleventh and Fourteenth Wards, have given notice that they would favor an issue of \$1,000,000 in bonds for lighting and power system, claiming that half of that amount would not be sufficient to extend the lines to the suburban districts so sadly in need of lights at this time.

**Spokane, Wash.**—The stockholders of the Washington Water Power Company will vote on December 1 on the question of authorizing an issue of \$15,000,000 bonds, of which about \$2,000,000 will be expended each year for three years on improvements.—D. L. Huntington, Manager, Spokane.

**Sumner, Wash.**—The Pacific Coast Power Company, of Seattle, has decided to construct a power plant between Sumner and Dieringer.

**Tacoma, Wash.**—Council has received numerous petitions for electric lights, also ordered Commissioner of Public Works to advertise bids for electric power for pumping at Station C, as present contract expires January 1, 1909.

**La Crosse, Wis.**—Geo. Bradish, of La Crosse, is preparing plans and specifications for the proposed water power plant of the La Crosse Water Power and Electric Company, to cost about \$250,000.—Wm. Neumeister, Promoter.



**Mexico City, Mex.**—The Mexican Light & Power Company, instead of leasing its extensive property to the Mexican Tramways Company, as was recently reported, will add \$14,000,000 gold to the capital stock of the company; capacity of the company's hydro-electric plant at Necaxa, near this city, will be immediately increased to 64,000 horse-power from its present capacity of 48,000 horse-power; plans have been adopted for making a still further increase of 16,000 horse-power by July 1, 1910, and another 16,000 horse-power by July 1, 1911. This will give the plant a total capacity of 96,000 horse-power.

**Lethbridge, Alta., Can.**—Smith, Kerry & Chace, Engineers, Confederation Life Bldg., Toronto, Ont., are preparing plans for a water supply system and lighting plant for this city; system will be operated by steam and will supply 30 arc lamps and 7,000 incandescent lamps; plant will have a capacity of 1,000 kw. in three units for light and power; cost, \$75,000.

**Montreal, Que., Can.**—The Montreal Light, Heat and Power Company has made arrangements to secure 100,000 additional horsepower in the next two years; new steam plant will be constructed.

**Sault Ste. Marie, Ont., Can.**—The Lake Superior Power Company is making plans for the construction of a hydro-electric plant to have an output of 6,300 horse-power; cost, \$110,000.—L. H. Davis, Chief Engineer.

**Cebu, P. I.**—The Visayan Electric Company will install an ice plant of 6-tons capacity, duplicate compressor, and one additional 150-kw. dynamo.—R. R. Landon, Manager, Cebu.

## FIRE EQUIPMENT

**Ansonia, Conn.**—City wants an appropriation for a ladder truck.

**Ellington, Conn.**—The Selectmen have been authorized to make some arrangement, if possible, with the city of Rockville for fire protection for that part of the town lying north of the Rockville city line and adjacent thereto.

**Hartford, Conn.**—All bids for the construction of the fire engine house on Fairfield avenue were rejected and new ones will be received by James P. Berry, Secretary Board of Council.

**Meriden, Conn.**—The Fire Commissioners have asked for an increase of over \$23,000 above last year's allowance, including four new fire alarm boxes, keyless doors for fire alarm boxes, ladders, rubber tires and brakes for truck; a new station will be built and equipped on the west side of the city.

**Bridgeville, Del.**—Citizens have decided to establish a water plant here, to organize a fire company and purchase ladders and fire hose; engineer will be secured to compute the cost of a water plant; committee has been formed, with H. L. Cannon, Chairman, and W. E. Truitt, Secretary.

**Joliet, Ill.**—Fire Marshal Landon is planning to purchase additional equipment.—Address Fire Marshal.

**Pekin, Ill.**—Pekin needs at least one more fire station and increased apparatus for fighting fire.

**Chesterton, Ind.**—Town is considering the question of installing a fire alarm system.

**Almena, Kan.**—A fire company has been organized; Council will probably purchase equipment for the company.—Theodore Telleson, Foreman.

**New Orleans, La.**—The Apparatus Committee has been authorized to advertise for bids for the two new engines and five hose wagons.—Thomas O'Connor, Fire Chief.

**New Orleans, La.**—Council is interested in ordinance looking towards better fire protection in three wards; the old St. Mary school house will be altered at cost of \$3,000; \$30,000 will be spent for an engine house in the Thirteenth Ward, and another engine company is greatly needed in that district; aerial truck and several engines may be purchased.

**Takoma Park, Md.**—As a result of the destruction recently by fire of the Bliss Electrical School at North Takoma, Md., efforts will be made to have a fire engine company located in Takoma Park; Citizens Association of Takoma Park, D. C., will co-operate in securing engine and apparatus.—Mayor W. G. Platt.

**Haverhill, Mass.**—Special Committee appointed by Council is in favor of an entire new station in Ward 7; the remodeling of old High School is not practicable.

**Lawrence, Mass.**—The Fire Commissioners have selected a site at Lowell and Oxford streets for the proposed new engine house.

**Lawrence, Mass.**—Common Council has adopted ordinance authorizing the Mayor, Chief of Fire Department, Building Inspector Carey and Superintendent Hennessey to procure plans for a new four run fire station at the corner of Lowell and Oxford streets, the site purchased for \$13,000.

**Lowell, Mass.**—Fire Chief Hoswer has recommended the purchase of a fire engine for the Pawtucketville Fire Station.

**Shirley, Mass.**—Town has appropriated money for a fire alarm system.

**Duluth, Minn.**—Fire Chief A. F. Thayer has reported that the generator now in use at the fire hall was inadequate and advised that an extra one be put in; he has been instructed to make out a list of articles needed and hand it in; purchase of a steam fire engine is being discussed; it was left to a committee composed of the Fire Department Committee, Chief Thayer and Mayor Hawkinson; the Chief favors a first-sized engine.

**Fairmont, Minn.**—Council will purchase 1,000 feet of hose.

**Rochester, Minn.**—Council will purchase ladders for the Fire Department.

**Clarksdale, Miss.**—A series of destructive fires has necessitated action on the part of Council in the matter of improving Fire Department, and a committee consisting of Aldermen J. H. Johnson and M. J. Bouldin has been appointed; horses will be secured, together with a paid force of employees, and a fire alarm system will be installed at an early date.

**Kansas City, Mo.**—Motor fire apparatus for Kansas City will be the next improvement in the Department, if the expectations of John Egner, Fire Chief, are realized.

**Hoboken, N. J.**—Twelfth Ward Improvement Association is urging erection of a new fire house on Tonnele avenue.

**Jersey City (Hudson City), N. J.**—A fire engine company is to be organized in the Twelfth Ward.—Address City Clerk.

**Newburgh, N. Y.**—Consulting Engineer Ernest J. Richards is preparing plans for an electric fire alarm system, including new wiring for switchboards and about fifty new call stations; bids will soon be received by the Fire Department.

**North Tonawanda, N. Y.**—The Columbia Hook and Ladder Company has had plans prepared for a two-story hose house, 36x80 feet, on Oliver street, frame, composition roof and steam heat; cost, \$6,000.

**Rochester, N. Y.**—Architects Chas. F. Crandall & Jno. F. Strobel, Jr., are preparing plans for a two-story and basement fire house at Campbell and Child streets.

**Smithtown, N. Y.**—The members of Smithtown Hook and Ladder Company, No. 1, are energetically pushing the work of securing the necessary apparatus and building for the use of the department; company now numbers about 75 members and already has a good hook and ladder truck, etc., and has purchased a chemical fire engine at a cost of \$650.

**Springfield (L. I.), N. Y.**—City will procure a chemical engine and ladder truck.—William N. Decker, Chairman of Committee.

**Tupper Lake, N. Y.**—City has appropriated \$3,000 for fire apparatus.

**Yonkers, N. Y.**—Council has directed Geo. S. Cowles to prepare plans and specifications for altering and improving the Shandonale hose house, so as to accommodate an additional fire company; bids will be called for by the Board of Contract and Supply.

**Charlotte, N. C.**—Estimates are being prepared for building fire station.

**Linden Heights, Columbus, O.**—Town is to be provided with a chemical engine.

**Urbana, O.**—City is considering the purchase of hose.

**Enid, Okla.**—Council will purchase additional fire apparatus.—Address City Clerk.

**Portland, Ore.**—The residents of Stephens' Addition have petitioned the Council to install a fire engine in the hose house on East Seventh street.—Address City Clerk.

**Altoona, Pa.**—New fire station will be erected on land owned by the municipality at the northeast corner of Second avenue and 13th street; measure passed carries an appropriation of \$6,500 for the erection of the building and provides the details of construction.

**Harrisburg, Pa.**—Bids will soon be received for a new truck for the Fire Department.—Fire Chief Garverich.

**Pittsburg, Pa.**—Architects Billquist & Lee have plans ready for bids for a \$35,000 2½-story fire and patrol station for the Board of Public Safety.

**Port Griffith, Pa.**—Arrangements are being made to establish a fire company.—Address Borough Clerk.

**Wilkes-Barre, Pa.**—A new engine is needed in the east end of the city, but a new \$15,000 fire house is necessary; a new chemical engine and combination hose wagon is needed in No. 2 engine house to take the place of the large, old red hose cart, which is a dangerous conveyance; cost, \$2,000; ordinance providing for the purchase of 1,000 feet of hose has been passed.

**Sumter, S. C.**—Chairman Finn, of Fire Department Committee, has reported that Hose Company No. 2 building is decaying

and should be repaired or a new one erected; action was deferred by Council.

**Hillsboro, Tex.**—Council is agitating the matter of improved fire protection.—Address City Clerk.

**Norfolk, Va.**—The Board of Control has passed resolution appropriating \$2,200 for fire alarm boxes in High school buildings and \$175 for the same purpose in Berkeley school houses.

**Norfolk, Va.**—The Controllers have received petition for the purchase of two additional second-size fire engines and repairs to one of the engines now in use; cost \$12,000; the Board of Aldermen is considering supplementing the Norfolk Fire Department by a fire boat; the Board is to also consider the matter of installing a salt-water system here.

**Tacoma, Wash.**—Council is discussing installation of new fire system or repairing present one.

**Vancouver, B. C., Can.**—Council will build fire engine house in the Fairview district.—Wm. McQueen, City Clerk.

**Welland, Ont., Can.**—Arrangements are being made to buy an additional hose cart.—Address R. M. Beatty.

## ELECTRIC RAILWAYS

**Montgomery, Ala.**—Richard Tillis, well-known Montgomery millionaire capitalist, has bought the Montgomery street railway system; he has taken charge of it and will soon begin improving the system.

**San Pedro, Cal.**—Application has been made by William Peek and E. D. Seward for a railway franchise on several city streets and along Palos Verdes street to Santa Cruz; line would practically make a complete system from Point Firmin on the south to the northern end of the city.

**Fresno, Cal.**—The Fresno, Hanford and Summit Lake Interurban Railway Company will let contracts about December 15 for building its proposed standard-gauge electric railway from Fresno, passing through Colma, Malaga, Fowler, Selma, Kingsburg and Laton, the southern terminus being Hanford; line will pass through a fruit raising district; it will be about 40 miles in length; overhead trolley system will be adopted; power station will be built at Kingsburg and the substations at Malaga and Laton, and also plans to build and operate two amusement resorts, one at Laton and the other on Kings River, a few miles east of Laton; capital stock, \$1,000,000; surveys have been made and right-of-way obtained; officers: L. A. Lares, Fresno, President; F. S. Granger, Hanford, Vice-president and General Manager; J. H. Bidle, Hanford, Secretary.—Chadwick & Sykes, Crocker Bldg., San Francisco, Chief Engineers.

**Manchester, Conn.**—The Glastonbury Power Company has decided to improve its system to Manchester, including the construction of a transformer station.—J. S. Williams, President.

**Chicago, Ill.**—The Chicago, Joliet and Western Interurban Railway Company, principal office Chicago, has been incorporated; capital stock, \$10,000; line is to be constructed from the city of Chicago, southwest through the counties of Cook and Du Page, southwest and south through Will county to the city of Joliet, and west to such other points in the counties of Kendall, Grundy and La Salle as may be determined upon.—C. Fox, Edward Ford, Andrew Rutledge, 1200-59 Clark street, and others, incorporators.

**Logansport, Ind.**—The Logansport, Frankfort and Indianapolis Traction Company has been incorporated with \$25,000 capital by Samuel Blakeslee and Allen G. Barrone, Cleveland, O., and Fred Cook, Indianapolis; company will build a line from this city to Frankfort via Burlington and Young America.

**Des Moines, Ia.**—The Des Moines and Sioux City Electric Railway Company has made financial arrangements for its proposed line; nearly all of the right-of-way has been secured from Des Moines, Ia., northwest to Sioux City, about 192 miles; work will be begun early next spring.

**Sioux City, Ia.**—L. F. Wakefield, Chief Engineer, accompanied by J. D. Browning, manager of the company, and by the engineering crew, will start over the line this week to make the final surveys of all railroad crossings of the Sioux City and Spirit Lake interurban line; surveys will also be made of the towns through which the line will pass, so that the franchises may be made, naming the streets through which the line is to pass; Counsel E. A. Burgess is now at work on the franchises and they will be submitted as soon as the necessary data have been received.

**Newton, Kan.**—A. M. Rose and Olcott Payne, of New York, who are largely interested in gas and electric light properties in various parts of the country, are backing the project to build a trolley line running to Wichita on the south and as far as Salina on the north, with perhaps shorter

lines connecting with Hesston and Moundridge, as well as the other towns nearby.

**Parsons, Kan.**—A franchise to run an interurban line through the city on Broadway will be asked of Council by the Siggins Electric Company; the Katy station stands in Broadway, and this will make it necessary for the line to detour in order to get on East Broadway.

**Topeka, Kan.**—A company of Kansans have organized to build an electric line from Kansas City to Topeka through Lawrence; Irving W. Hill, a son-in-law of J. D. Bowersock, and his business manager, and J. F. Shaefer, an electrical expert of Kansas City, who were at the Savoy, say they will complete a line from Kansas City to Topeka in two years; men who are back of the enterprise and who own the stock are Governor-elect W. R. Stubbs, J. E. Stubbs, his brother; Albert Henley, J. D. Bowersock, Charles E. Sutton, W. E. Spalding, R. C. Johnston and Irving Hill, all of Lawrence, and David R. Mulvane and M. E. Low, attorney for the Rock Island, of Topeka; franchise for a right-of-way and a street car system in Lawrence has been granted by City Council of Lawrence.

**Alexandria, La.**—The Alexandria Electric Street Railway Company has been granted a franchise to build a line on Lavin street.

**Mt. Washington, Md.**—The Mt. Washington Electric and Power Company is contemplating running lines to Cockeysville from Lutherville.—T. W. Offutt, Towson, Manager.

**Waltham, Mass.**—A petition has been filed with the State Board of Railroad Commissioners, asking for a certificate for the construction of an interurban electric railroad from Waltham to Marlboro, with a connection on the Waltham end with the Newton Street Railway system and thence with the Boston Elevated Railway and connection at Marlboro with the Boston and Worcester Street Railway; route as petitioned for is similar to that sought by the Boston, Waltham and Western Railway Company last summer, and the backers of the road now proposed are the same to quite an extent; petition shows that the road is to begin at the terminus of the Newton Street Railway on upper Main street, in Waltham, through Weston, Wayland and Sudbury to a point in Marlboro in Main street, near Howe, with a branch line running to Main street in Maynard; length, 22½ miles; capital stock, \$500,000; Board of Directors have been chosen, consisting of Fred T. Ley, of Springfield; P. P. Adams, of Waltham; Harold A. Ley and Morris H. Barnett, of Springfield, and F. R. S. Mildon, of Marlboro.

**Bay St. Louis, Miss.**—A franchise calling for the construction of an electric street railway connecting the Jourdan river and Bay St. Louis, Miss., and other prominent resorts on the Gulf coast, will be requested of the City Council of Bay St. Louis on the first Saturday in December; cost of constructing the proposed Gulf coast electric line, \$1,500,000; Messrs. Joseph T. Buddecke and H. L. Huntington are among the chief promoters.

**Nevada, Mo.**—An electric line may be built from Nevada to Fort Scott; Fort Scott people are very enthusiastic over the matter; after line is constructed an electric park will be built about the half way point between this city and Fort Scott.

**Missoula, Mont.**—The prospects of securing an electric street railway system for Missoula looks bright; Senator Clark is willing to meet the city half way and will endeavor to secure a franchise from the city; the building of an electric line from Bonner to Hamilton would be taken up later.

**Islip (L. I.), N. Y.**—An amended franchise has been granted the South Shore Traction Company by the Town and Highway Commissioners; the actual work of construction on its line will begin on April 1 or before if the weather permits; the road is to be run on the main street of the villages of Sayville, Islip and Bay Shore, but not on the other portions of the South road; a line is to be run from the depot to the public dock at Sayville along Candee avenue, and it is to be in operation by May 15; road will be operated by electricity, or cars drawn temporarily by horses.

**New York, N. Y.**—Judge Lacombe, in the United States Circuit Court, has granted the application of Receivers Joline and Robinson for permission to expend \$200,000 in repairing the tracks of the Madison and Fourth avenues line.

**Clinton, Okla.**—The Clinton, Oklahoma and Western Railway Company has been incorporated with \$500,000 capital for the purpose of building a line 400 miles in length from Clinton in Custer County in a northwesterly direction to Guymon and other points in the Panhandle district, passing through the counties of Custer, Dewey, Roger Mills, Ellis, Woodward, Harper, Beaver, Texas and Cimarron; and a line from Clinton in a southeasterly direction to Lehigh in Coal County, thus connecting

the western and northwestern parts of the State with the Oklahoma coal fields; C. C. Goodman, of Ft. Smith, Ark., F. J. Nance, C. H. Lamber, both of Clinton, are incorporators.

**El Reno, Okla.**—Proposed line from El Reno to Chickasha will soon be under construction; surveys have been made and right-of-way obtained.—Henry Schafer, President; H. T. Beake, Promoter.

**Guthrie, Okla.**—A charter has been granted to the Clinton, Oklahoma and Western Railroad Company, with headquarters at Clinton, capitalized at \$500,000, and proposing to construct a line from Lehigh to Clinton and northwest through the Panhandle county; the route is 400 miles in length.

**Grants Pass, Ore.**—The Rogue River and Oregon Southern Railway Company's forces will construct the first ten miles of its proposed electric railway from Grants Pass to Waldo, Ore., 40 miles; surveys are made and right-of-way secured; capital has been obtained.—H. B. Buddinborg, President, Seattle, Wash.; G. A. Collins, Chief Engineer, Grants Pass, Ore.

**Carlisle, Pa.**—The proposed Carlisle to Newville electric railway route is being surveyed.

**Chester, Pa.**—Joseph Shortledge, Concordville, Pa., is interested in plan to build an electric railway from Chester to Llewellyn, Concordville and West Chester.

**Chambersburg, Pa.**—The Chambersburg, Greencastle and Waynesboro Street Railway Company has applied to the Town Council for a franchise over streets in the northern part of Chambersburg line, with intention of extending its Chambersburg line to the Red Bridge, north of Chambersburg, if the franchise is granted; franchise applied for by the C. G. & W. Co. conflicts with the franchise recently asked for by the Chambersburg and Gettysburg Electric Railway Company; Council has not decided which line may have the franchise.

**Austin, Tex.**—Authority to register \$785,000 worth of bonds has been granted by the Railroad Commission to the Kansas City, Mexico and Orient Railway on 65 miles of completed road; the Wichita Falls and Southern Railway has been authorized to register \$700,000 in bonds on 52 miles of completed road, and the Wichita Falls and Northwestern Railway to issue and register \$248,000 in bonds.

**Dallas, Tex.**—The Commissioners have practically agreed to give a franchise to the Missouri, Kansas and Texas Railway for the contemplated extension of the yards for which the franchise was sought, and which would involve an outlay of about \$300,000.—J. W. Petherath, Chief Engineer.

**Mt. Pleasant, Tex.**—The Red Mineral Springs Development Company is preparing to build an electric road.—M. C. Wolfe, Manager.

**Waxahachie, Tex.**—Howard M. Hyatt, Secretary of the Empire Construction Company, of Kansas City, and A. C. Harrington, Civil Engineer for the company, have secured a franchise for the construction and operation of an interurban railway through Waxahachie; franchise covers a period of 25 years and was granted by the City Council; if ordinance is accepted, work is to begin within twelve months and the company is to have three miles of road in operation in Waxahachie within three years from acceptance; line is to be built from Dallas via Waxahachie and Cleburne to Fort Worth; franchise through Cleburne secured some time ago; power plant for the line is to be located between Waxahachie and Cleburne.

**Salt Lake City, Utah.**—County Commissioners received a delegation of residents of Ogden Valley in the interest of the proposed electric railway from Ogden through the canyon to the valley; residents of the valley want the road and have petitioned the board to grant a franchise for it; Mr. Eccles, President of the Ogden Rapid Transit Company, which is considering the construction of the line, was not present, but after listening to the delegation from the valley the board decided to confer with Mr. Eccles on the matter, and it is believed that the franchise will be granted and the road constructed as soon as weather conditions permit.

**Spottsylvania, Va.**—Business men are considering the formation of a joint stock company, whose object is to build an electric railway line to run from Fredericksburg to Spottsylvania and from there to Mineral City, in Louisa County; railway would pass through a section of the country rich in minerals.

**Seattle, Wash.**—A petition has been presented by citizens of the Lakewood district asking that a number of provisions be added to the amended franchise to be granted to the Seattle, Renton and Southern Street Railway Company for the construction of two routes in the old Columbia City district, providing for transfers and service and a bond insuring the com-

pletion of the lines within a given time; referred to the Corporations Committee.

**Tacoma, Wash.**—Council has referred to Franchise Committee ordinances granting a right to Pacific Traction Company to operate a street railway in the city.

**Walla Walla, Wash.**—The Farmers and Business Men of Walla Walla and Columbia counties have endorsed the plan of financing the proposed Columbia and Walla Walla traction line; right-of-way on a power site on the Tucannon about 16 miles east of Dayton, has been secured, and between 3,000 and 4,000 horsepower can be generated there at a nominal cost; road in time can be extended from Dayton to Pomeroy and Lewiston and thence to Spokane, and it is the ultimate intention of the company to form a network in the Walla Walla valley; Engineer J. A. Wallace has made a report upon the right-of-way for the purpose of securing the financial aid of an Eastern bonding house, showing the right-of-ways of the company to be worth approximately \$55,000.

**Martinsburg, W. Va.**—Councilmen Louis H. Thompson and W. R. Caskey have been appointed a committee to secure information in regard to the street car franchise granted to the trolley line in that city; at the next meeting of Council a franchise will probably be granted to Mr. Anderson, who is a promoter of the proposed line.

**Sistersville, W. Va.**—Union Traction Company, which operates between Sistersville and New Martinsville, will extend its lines from New Martinsville to Hannibal next year.—W. H. McCoy, President.

## BRIDGES

**Bateville, Ark.**—A. M. Lund, Engineer, will prepare plans for six steel bridges to be erected in Independence County.—Address County Judge Pearce.

**Lathrop, Cal.**—Bids will soon be asked by the County for the construction of a 400-foot bridge across the Missoula River.

**Sacramento, Cal.**—Board of Supervisors, Sacramento, has authorized the officials of San Joaquin County to advertise for bids and to award the contract for the construction of a steel bridge over the Mokelumne River between Galt and New Hope, to be known as the Galt-New Hope bridge; the bridge to be built by the counties jointly, each to stand half of the expense.—County Surveyor Phinney, Sacramento.

**Lexington, Ga.**—Oglethorpe County will vote, December 5, on issue of \$10,000 bonds for repairing bridges and constructing new structures in connection with public roads.—W. J. Knox, Commissioner of Roads and Revenues.

**Macon, Ga.**—Bibbs county contemplates issue of \$50,000 of bonds for bridge work and other improvements.—Address County Commissioners.

**Savannah, Ga.**—Seaboard Air Line Railway is planning proposed change of drawbridge over river near Savannah to lift bridge; steel construction; old draw will be converted into fixed span; lift will be 120 feet in length, providing an opening 120 feet wide for vessels.—W. L. Seddon, Chief Engineer, Portsmouth, Va.

**Chicago, Ill.**—The Board of Trustees of the Sanitary District of Chicago will soon ask for bids for the superstructure of a railway bridge over the North Shore canal, at Evanston, for the Chicago, Milwaukee and St. Paul Railroad; it will be a double track structure, with 175-foot span.—C. R. Darbridge, Engineer.

**Keithsburg, Ill.**—The Iowa Central Railroad and the local office of the U. S. Engineers have agreed to the plans for the new proposed Keithsburg railroad bridge; the main feature of the new plans being a great 223-foot span.—Howard G. Kelley, Chief Engineer Iowa Central Railway, Minneapolis, Minn.

**Gary, Ind.**—W. F. Bridge, C. E., Hammond, Ind., has prepared plans for a bridge across the Little Calumet River at S. Broadway, Gary.—Address Charles Johnson, Auditor Lake County, Crown Point, Ind.

**Indianapolis, Ind.**—Plans have been approved by the Board of Public Works for a concrete arch across Pogue's run at Rural street; it will displace an old wooden truss bridge and will cost about \$5,000; bids are to be asked at once for the construction work.

**Charles City, Ia.**—Bids opened on November 12 by the Board of Supervisors for a steel concrete bridge across Cedar River, but the letting of contract has been postponed until January.

**Leavenworth, Kan.**—A. Maduska, City Engineer, is preparing plans for a 40-foot span reinforced concrete arch bridge, 20-foot raise, for the city.—J. H. Kirmeyer, City Clerk.

**Leavenworth, Kan.**—Leavenworth County contemplates constructing a number of reinforced concrete bridges.—H. C. Perkins, County Surveyor.



**Topeka, Kan.**—City Engineer J. P. Rodgers, City Hall, has prepared plans for five reinforced concrete bridges and one 78-foot span steel bridge, at Kansas avenue and Kaw River, for this city; bids will be received in the spring.—C. B. Burge, City Clerk.

**West Point, Ky.**—Hardin and Jefferson Counties are considering constructing a bridge over Salt River; cost, \$25,000.—J. W. A. Meyers.

**Kansas City, Mo.**—The Commercial Improvement Company and Metropolitan Street Railway Company, 223 Dwight Bldg., will receive bids in about 60 days for a reinforced concrete and steel viaduct, at Main street and Belt Line tracks.

**Brooklyn, N. Y.**—Commissioner McCarrall, of the Public Service Commission, has declared that the refusal of the Commission to permit the Brooklyn Rapid Transit Company to build an elevated structure in Flatbush avenue, as well as the exclusive right to the two tracks over the Manhattan Bridge, did not mean that the bridge would not be put to good use.

**Kenwood, N. Y.**—The contract recently awarded to Skinner & Tibbitts, of Oneida, N. Y., for the construction of a concrete bridge over the Oneida Creek, near Kenwood, has been rescinded; new bids will be asked.

**Plattsburg, N. Y.**—The proposition to erect a new bridge over the Saranac River at Caroline street has been approved by the Village Council; bids will soon be asked; cost, \$5,000.—Ralph L. Signor, Village Engineer.

**Cincinnati, O.**—City is contemplating construction of a concrete bridge at Reading road and McMillan street, to cost \$100,000.—George Sundmaker, City Engineer.

**Cleveland, O.**—Citizens of the Seventeenth Ward are forming an improvement association to impress Council with the need of a new bridge over Kinsman road, S. E.; City Engineer Robt. Hoffman is preparing an estimate.

**Cleveland, O.**—The City Engineer is preparing plans for the construction of a bridge at West Twenty-fifth street, at Walworth Run; bridge will be one-third mile long; estimated cost, \$350,000.

**Fremont, O.**—The Lake Shore Electric Railway Company will erect a bridge north of the State street structure.—F. W. Coen, General Manager, Norwalk.

**Portland, Ore.**—Engineer Ralph Modjeski, Chicago, has submitted sketches to the City Council, Portland, for a bridge over the Willamette River; plans show a west approach near the union depot, and the east approach at Broadway and Larrabee streets; cost, \$1,500,000.—Address Mr. Munley, Wells-Fargo Co., Chicago.

**Morrisville, Pa.**—In response to a petition by Morrisville residents, the Bucks County Commissioners have decided to replace the present structure over the canal at Bridge street with a modern bridge, to have a footpath on either side.

**Pittsburg, Pa.**—Director Shepherd has introduced an ordinance in Council setting aside \$20,000 of the \$1,000,000 appropriated by a vote of the people for the construction of a new bridge at the Point, to be used for the employment of an architect and consulting engineers for the structure.

**Pittsburg, Pa.**—Work will be pushed rapidly in connection with the construction of the new Union Bridge to cost \$1,000,000 and which was authorized at the last election; resolution will be introduced providing for the appointment of a consulting engineer and two draughtsmen to prepare plans for the proposed bridge; suggestions made several weeks ago by Major A. P. Burchfield that the causeway have three approaches and take the shape of a "Y" in the middle of the intersection of the Allegheny and Monongahela rivers will be adopted.

**Reading, Pa.**—Council Committee is considering the construction of a bridge over the Lebanon Valley Railroad tracks at Tulpehocken street.—Elmer Beard, City Engineer.

**Scranton, Pa.**—City Engineer is to prepare specifications for a bridge on Balloon St.

**Wilkes-Barre, Pa.**—Hanover street, or more properly speaking, the West Lumber mill in the borough and Plymouth avenue in Bresslau, will be the terminals of the new bridge which is to be secured for Shawnee; Engineer Myles, of Wilkes-Barre, will now proceed to make a profile of the bridge and an estimate of the probable cost of its construction which will be presented to the court in a short time, together with the application for the appointment of viewers to view the site selected.

**Columbia, S. C.**—Richland County is considering election on issuance of \$75,000 bonds to purchase or build two free bridges over Congaree and Broad Rivers between Columbia township and Lexington.—Address County Commissioners.

**Dallas, Tex.**—Municipal Commission will

receive bids for construction of a \$4,000 concrete bridge over Turtle Creek at Hall street.—S. J. Hay, Mayor.

**Fort Worth, Tex.**—City and Tarrant County Commissioners are considering construction of another bridge across Trinity River to connect Fort Worth with North Fort Worth; Northern Texas Traction Company may co-operate.

**Bowling Green, Va.**—Plans of the Roanoke Bridge Co., Roanoke, Va., have been approved by the Commissioners of Caroline County for a steel bridge across North Anna River, to connect Caroline and Hanover Counties.

**Spokane, Wash.**—City Engineer J. C. Ralston has completed new plans for the Monroe street and East Oliver avenue bridges; latter bridge will cost about \$75,000.

**Tacoma, Wash.**—City Engineer Davis and his corps are busy preparing plans, estimates and specifications for nine concrete bridges and one steel bridge to replace worn-out wooden bridges and for two new bridges; plan is to call for a vote at the spring election for \$300,000 bonds to carry out work; one of the largest bridges planned is a concrete structure over the DeLin street gulch from Center to Thompson street on Yakima avenue, and the other new bridge is over the gulch at North 23d street; it is planned to replace the Tacoma avenue bridge with a steel structure, while concrete structures are being planned for North 21st street, Puyallup avenue, East 26th, 30th and 34th streets, Proctor avenue and Pacific avenue to replace the present wooden bridges; all the bridges mentioned must be repaired next spring.—Commissioner McGregor.

**Charleston, W. Va.**—The Farris Bridge Company has been incorporated; \$25,000 capital stock.—George W. McClintic, W. G. Mathews, M. I. Stiles.

**Milwaukee, Wis.**—The East Water street bridge bonds have been sold and the Board of Public Works will at once advertise for bids on a new structure; Perry, Coffin & Burr, Boston bond brokers, have agreed to purchase the entire \$300,000 issue at 4 per cent.; contracts will be awarded at once and the Board of Public Works expects to save more than \$10,000, owing to a rapid rise in the price of steel.

## MISCELLANEOUS

**Montgomery, Ala.**—Eutaw will have to try its bond issue of \$39,500 over, the Supreme Court having declared that the recent election was improperly conducted.

**Pine Bluff, Ark.**—Captain G. D. Lukesh, U. S. A., of Memphis, Tenn., in charge of the river work in this territory, is preparing plans for the work to be done along the Arkansas River at Pine Bluff, Ark.

**Hayward, Cal.**—N. W. Halsey & Co. have purchased \$39,938.50 Hayward municipal bonds; premium paid, \$2,005.50.

**Oakland, Cal.**—Council has passed an ordinance authorizing the Board of Public Works to employ a landscape architect for 24 months, dating from August 1, 1908, and fixing his compensation at \$100 per month.

**San Pedro, Cal.**—Council is discussing matter of the collection of garbage in the downtown district; A. P. Ferl has suggested that an ordinance be drawn covering the hours for the collection of garbage, and the division of the town into districts so that some basis could be secured upon which to let a contract for the collection of garbage for the whole city; the matter was temporarily disposed of by laying it over for one week.

**Mountain View, Cal.**—The Town Board of Trustees has received an ordinance calling a bond election to determine whether bonds for \$40,000 shall be issued for a sewer system and \$10,000 for a Town Hall and Jail.

**New Haven, Conn.**—The Board of Finance has decided that the Water street dock property should be purchased for city property and is the most valuable site in the city; it was suggested that on the site could be placed the incineration plant for garbage, city supply houses and in one corner No. 7 engine house. The request of Park Board for transfer of \$250 for the purchase of land at West Rock Park has been granted.

**Douglas, Ga.**—Bids will be received until December 20 for \$20,000 school bonds and \$15,000 light and water bonds, the proceeds to be used for improvements and extensions to the water and light plants.—J. W. Quincy, Mayor.

**Macon, Ga.**—A petition has been presented to the City Council to call an election to vote on the question of issuing \$300,000 in bonds for municipal improvements.

**Gary, Ind.**—Plans are being prepared for a City Hall to cost about \$55,000.

**Indianapolis, Ind.**—An ordinance is being prepared for the issue of \$600,000 bonds for the construction of City Hall.—Chas. A.

Bookwalter, Mayor; J. McNulty, City Clerk.

**Mishawaka, Ind.**—The Council has instructed the Purchasing Committee to purchase weights and measures for the City Sealer.

**Des Moines, Ia.**—The citizens have voted in favor of the erection of a City Hall building, to cost not less than \$350,000.

**Leavenworth, Kan.**—Council has passed ordinance transferring the sum of \$1,200 from the general fund to the general improvement fund.—E. W. Crancer, Mayor; J. H. Kirmeyer, City Clerk.

**Independence, Kan.**—Reed & Heckenlively, Baldwin Bldg., Springfield, have been engaged to prepare plans for a \$30,000 ice plant for this city.

**Topeka, Kan.**—Council has referred to Ways and Means Committee a resolution instructing the City Clerk to advertise for bids for a motorcycle to be used in the Police Department.

**Covington, Ky.**—The Superintendent of Public Works is reported to have recommended the construction of an additional garbage crematory; probable cost, \$15,000.—Ellsworth Woods, Superintendent of Public Works.

**Jefferson, Ky.**—C. W. Kelly, of Jeffersonville, has been granted a franchise by the Scottsburg Town Board to put in a system of water works, an electric light plant and a sanitary sewer; work is to begin in ninety days and completed by January 1, 1910.

**Portland, Me.**—Architects Carrere & Hastings, New York City, are preparing plans for an auditorium and City Hall for the city; cost, \$750,000.—Adam T. Leighton, Mayor.

**Minneapolis, Minn.**—Bonds, \$67,000, for permanent improvements will be ordered sold if the recommendation of the Ways and Means Committee meets with the favor of the City Council; the Committee has recommended \$20,000 for a new cell block and administration building at the workhouse; \$10,000 for the tuberculosis hospital; \$15,000 to bridge Bassett's Creek; \$12,000 for the city's share of bridging the proposed canal between Lake of the Isles and Lake Calhoun; \$5,000 for the Luverne avenue bridge, and \$5,000 for a cement warehouse for the Engineering Department.

**St. Paul, Minn.**—City Comptroller Betz has been asked by different departments for increases; Fire Board desires \$90,000 additional for imperative expansion of the department; Police Board, an increase of \$35,000 for the purchase of a central station site; also \$142,258 bridge repairs, to paint a Lexington avenue bridge, repair the High, Wabasha and Robert street bridges.

**St. Louis, Mo.**—The proposal for \$700,000 bond issue for the purchase of the old fair grounds for a city park has fallen short of the two-thirds vote.—City Comptroller Player.

**Chester, N. H.**—Geo. E. Adams, of Lawrence, Mass., has completed plans for a town hall.

**Jersey City, N. J.**—Chief Engineer Charles Van Keuren has been instructed to draw specifications for the collection and removal of ashes and garbage for one year from December 1 next; Clerk George T. Bouton has been directed to advertise for proposals for the same.

**Kearny, N. J.**—The Town Council contemplates erecting a Town Hall, to cost from \$65,000 to \$70,000.

**Newark, N. J.**—Architects J. H. & W. C. Ely have completed plans for a comfort station at Military Park, for the Board of Street and Water Commissioners; cost, \$17,000.—Wm. R. Sherrerd, Chief Engineer.

**So. Orange, N. J.**—The question of building a parkway along what is known as the Mosswood avenue route from the Orange Park to South Orange avenue, is being discussed by the South Orange Village Board of Trustees; Village Engineer, with the Streets Committee, will inquire further into the matter and ascertain the cost to the abutting property owners and to the village before putting the matter before the voters.

**Brooklyn, N. Y.**—Mayor McClellan, of New York City, has approved the ordinance appropriating \$155,000 for the erection of new wing to the Kings County Hospital, Brooklyn, under the jurisdiction of the Department of Public Charities, New York City.

**Buffalo, N. Y.**—The Park Commissioners have decided to reject all bids for a new stable in Delaware Park and to have the Park Department do the work, using modified plans which will bring the cost down under the appropriation of \$19,400; three bids received all exceeded the appropriation; lowest bidder on the straight plans was apparently C. H. Everitt, who offered to do the work for \$19,997.

**Jamestown, N. Y.**—Council is ready to consider plans and will soon retain architect to prepare plans for a hospital building, to cost about \$20,000.

**Rikers Island, N. Y.**—The Mayor has approved the ordinance appropriating \$2,250,-

000 to provide means for erecting an administration building, men's and women's cell building, mess hall, central heating plant, shops and a bath building for the new penitentiary at Rikers Island.

**Cleveland, O.**—Council is considering purchase of land for park and playground purposes.

**Dayton, O.**—An ordinance has passed second reading in the City Council appropriating \$35,000 for building the new Wayne avenue market house.

**Dayton, O.**—The Board of Public Service has been ordered by the State Board of Public Works to dredge the canal inside the corporation, and the feeder of the canal. —F. J. Cellarius, City Engineer.

**Youngstown, O.**—Bids will be received December 7 for the purchase of \$200,000 4½ per cent. Coltsville township bonds. —James S. Palmer, Youngstown, O.

**Chickasha, Okla.**—Architects Hair & Smith, Salina, Kan., have prepared plans for a three-story City Hall, 163x50 feet; press brick and Bedford and Carthage stone, iron and steel work, concrete flooring, patent roofing, terrazzo tiling, hard plaster, gas and electric fixtures, plate glass, water closets, lavatories and steam heat.

**Lawton, Okla.**—Bids will be received December 1 for the purchase of \$100,000 city bonds. Address City Clerk.

**Muskogee, Okla.**—Muskogee County Commissioners are making all arrangements to have drawn plans for a \$300,000 court house for Muskogee County.

**Muskogee, Okla.**—Council has voted to purchase new uniforms for the Police and Fire Departments.

**Pittsburg, Pa.**—The Pittsburg Board of Trade has adopted the report of the special committee on municipal railways, which advised continued agitation for the construction of subways to the East End, Northside and Southside, in the order of greatest necessity, either by the city or private individuals.

**Pittsburg, Pa.**—Item calling for the removal of snow and sprinkling streets has been cut from \$20,000 to \$15,000.

**Wilkes-Barre, Pa.**—A police station, cost \$15,000, is being agitated.

**Memphis, Tenn.**—A committee of the City Club, after six months' investigation, has reported favorably appropriation for a greater Memphis by a \$5,000,000 bond issue for civic improvements.

**El Paso, Tex.**—Engineers Hering & Fuller have prepared plans for a garbage disposal plant.

**Fort Worth, Tex.**—Plans to clean the river dams have been considered and it was found that it would cost at least \$30,000 to clean the beds, inasmuch as about 14½ feet of mud has settled thereon, due to the fact that no arrangement had been made to keep the dams clean.

**Galveston, Tex.**—Board of City Commissioners has passed an ordinance granting to the Galveston Wharf Company a franchise to cross Avenue A and Fortieth street with two tracks.

**Hillsboro, Tex.**—The question of issuing \$35,000 in bonds for the erection of City Hall, fire station, etc., is under consideration.—Address City Clerk.

**Houston, Tex.**—The Attorney General has approved of an issue voted of \$700,000 in bonds, including \$225,000 for storm sewers, \$225,000 for sanitary sewers, \$100,000 for water main extensions and \$150,000 for improvements on the Houston ship channel; money is available for the work contemplated right now.—Address City Attorney W. R. Wilson.

**Longview, Tex.**—The Attorney General has authorized an issue of \$1,500 5 per cent. 40-year city bonds.—Address City Clerk.

**Seattle, Wash.**—A proposition to submit to the voters of Greater Seattle, at a special election to be held December 22 or 29, a bond issue of \$1,000,000 to provide money for the purchase of land for parks, parkways and playgrounds, the improvement thereof, and for the payment of existing indebtedness incurred by the purchase of other property and the improvement has been recommended for passage by the Finance Committee of the Council; it is the intention of the Board to continue along the plans of J. C. Olmsted, who planned the original park and boulevard system, extending it to the north and south districts, putting through the Queen Anne scenic drive improvement and additional playgrounds.—J. M. Frank, President.

**Seattle, Wash.**—The Committee has recommended for passage an appropriation of \$6,000 for the establishment of a work house along lines proposed by Mayor John F. Miller; this appropriation will not be available until next year.

**Seattle, Wash.**—The proposition to issue \$400,000 garbage bonds has been defeated.

**Seattle, Wash.**—Councilman Eugene Way, at the request of the Board of Park Commissioners, has introduced a bill providing

for the submission to a vote of the people a proposition to issue \$1,000,000 in bonds for park and boulevard extensions; it has been referred to the Parks and Boulevards Committee, of which Way is Chairman.

**Ashland, Wis.**—The Ashland Advancement Association will push the claim for harbor improvement.

**Kenosha, Wis.**—Kenosha women have held a "Tag day" and raised about \$2,000 for the children's playground fund.

**Madison, Wis.**—Former State Senator A. M. Stonedahl has offered to give the city of Madison a beautiful strip of lakeshore land in the Sixth Ward for park purposes; value of the proposed gift, \$8,000.

**Milwaukee, Wis.**—Plans have been completed for garbage incineration plant; cost, \$170,000; bids will be asked in early spring. —Rudolph Hering and G. W. Fuller, Consulting Engineers.

**Vancouver, B. C.**—Rapid progress is being made in the completion of the survey of the townsite of Prince Rupert; plans are now being prepared for the proposed planking of the different streets and the laying of sidewalks, and the work of building them will be started as soon as the plans are completed; Provincial Government will shortly call for tenders for carrying out its share of the work on the new townsite of the Grand Trunk Pacific; \$200,000 is to be expended in the early spring, \$40,000 for sewer construction and \$160,000 in new streets and sidewalks; Sixth avenue, which is four miles in length, will be planked from end to end, and Main street, which crosses Sixth avenue at right angles, will be planked from the waterfront for a distance of a mile.

## BIDS RECEIVED

**Gurdon, Ark.**—The city has awarded the contract to the Gurdon Brick Company, city, for paving about one-half mile of brick sidewalks.

**Los Angeles, Cal.**—The American Cast Iron Pipe Company, through the Crane Company as agent, has been awarded contract for 2,740 short tons 4 to 20-inch pipe, delivered at Los Angeles, at \$31.25, and for 51 tons 16-inch, at factory, at \$17.50; the Crane Company has also been awarded contract for gate valves as follows: five 24-inch, at \$186.05 each; one 20-inch, at \$138.20; four 16-inch, at \$94.20; ten 12-inch, at \$32.55; ten 10-inch, at \$23.55; ten 8-inch, at \$14.35; 100 6-inch, at \$8.12; 200 4-inch, at \$5.27; 16 to 24-inch regular geared hub end, 4 to 12-inch, hub end.—James P. Vroman, Secretary, Water Commission.

**Oakland, Cal.**—The Board of Public Works has awarded the contract for the city's half of the work of improving Franklin street from Seventh to Fourteenth street to the Ransome-Crummey Construction Company; the successful bid was as follows: Regrading, 2½ cents a square foot; granite curbing, \$1.58 a linear foot; asphalt paving, 20½ cents a square foot; basalt block guttering, 47 cents a square foot; the cost of the remainder of the paving work will be borne by the property owners along the thoroughfare.

**Redding, Cal.**—The Board of Supervisors has let the contract for building two county bridges—one over Clear Creek at Tower House for \$5,493; the other over Cottonwood Creek, near Ono, for \$2,998.

**San Mateo, Cal.**—The Board of Trustees has awarded the contract to the Barber Asphalt Paving Company for paving a portion of San Mateo drive and a portion of Second avenue.—John D. Morton, Clerk.

**San Pedro, Cal.**—Don Knight was the lowest bidder for the work to be done on Beacon street, and the contract was awarded to him at the following prices: Grading, \$4.95 per linear foot; curb, 40 cents per linear foot; gutters, 50 cents per linear foot, and sidewalk, 13 cents per square foot; the contract complete figures about \$2,900; this work comprises the grading of Beacon from Sixth to a point 135 feet south of Seventh street; at the intersection of Seventh street the grade will be lowered about seven feet, making the grade from Sixth to Seventh 5 per cent.; from Seventh street to the point 135 feet south of Seventh; the grade when completed will be about 15 per cent.

Bids were opened for the cells and corridor for the city jail, and the following were submitted: A. F. Anderson, \$788; Parsons Safe Company, \$1,025; Cheney-West Company, \$568; the contract was awarded to the Cheney-West Company; this contract calls for three steel cells, corridor and steel door.

**Selma, Cal.**—W. F. Hanrahan, San Francisco, was low bidder for constructing sewerage system, at \$33,356.53; other bids were: R. M. Bardsen Company, \$47,600.45; Stanley Contracting Company, Sausalito, \$34,203.27; W. J. Schmidt, Berkeley, \$37,148.17; Contra-Costa Construction Company, Berkeley, \$38,046.19; Chas. Stanley, Los Angeles, \$40,765.20; Davis & Heuser, Salt Lake City, \$34,056.60; W. H. McElroy, Mer-

ced, \$36,345.01; Malley & Frey, San Francisco, \$35,478.86; F. H. Beeman, Los Angeles, \$44,937.68; Frick & Ware, Los Angeles, \$40,555.05; Jas. Keene, Santa Monica, \$43,930.06; McGillivray Construction Company, Sacramento, \$39,279.93; California Ornamental Brick Company, Los Angeles, \$37,121.83; Hazlewood-Deane-Downing, Palo Alto, \$34,468.19; George H. Rogers, Los Angeles, \$43,684.09; Hafey & Murphy, Oakland, \$33,892.70; Strange & Armstrong, Salt Lake City, \$43,684.40; Glass & Fisher, Bakersfield, \$39,871.19; Beck-Lewis & DeLosh-mutt, Watsonville, \$43,830.47; A. S. Bent, Los Angeles, \$35,962.57; Worwick Paving Company, Fresno, \$34,488.12; American Light and Water Company, Kansas City, Mo., \$35,357.21; F. J. Boland, Hanford, \$44,987.28. The details of the low bid follow: Sewage disposal tank, 100x36x5½, \$1,997; 20,474 feet 12-inch clay pipe outfall, in 6-foot trench, sandy soil, oiled street trenches to be refilled, at 53.5 cents per foot; 576 feet in city limits, same price; 5,179 feet 10-inch, 45.8 cents; 10,576 feet 8-inch, 40 cents; 35,345 feet 6-inch, 35 cents; manholes, average depth 3 to 12 feet, \$30 each; lamp holes, \$5; sheathing left in trench, \$20 per 1,000 feet; ground water to be pumped on force account; wages of common labor, \$2 per day on public work by State law.—W. H. Shafer, City Engineer.

**East Granby, Conn.**—The contract for 1,350 linear feet of gravel and 2,150 linear feet of gravel and telford road has been awarded to the Lane Construction Company, of Meriden, at \$1.05 and \$1.65 per linear foot, respectively.—State Highway Commissioner.

**Naugatuck, Conn.**—O. L. Benedict, of Pittsfield, Mass., secured the contract for 3,700 linear feet of macadam and telford State road, at \$1.75 and \$2.25 per linear foot, respectively.

**South Windsor, Conn.**—State Highway Commissioner McDonald, Hartford, has awarded the contract for constructing 12,390 linear feet of macadam and telford road to Thos. Kearney, of Meriden, at \$1.47 per linear foot for macadam and \$2.60 for telford; a bridge over the Scantic River will also be improved at a cost of \$1,450.

**Willimantic, Conn.**—The contract for the removal of garbage has been awarded to Joseph Morris for a period of two years, beginning December 1.

**Washington, D. C.**—Bids were received as follows by the Commissioners of the District for the construction of sewers in the District: (a) Warren F. Brenizer Company, (b) E. G. Gummel, (c) John E. Lyons, (d) George Hyman, (e) R. J. Beall Construction Company, (f) James A. Coyle, all of Washington, D. C. East Side intercepting sewer, Section D, from Boundary to Brookland: Excavation, (a) 70 cents, (b) \$1, (c) 85 cents; sewer brick masonry, (a) \$15, (b) \$16, (c) \$15; embankment, (a) 30 cents, (b) 40 cents, (c) 45 cents; invert brick masonry, (a) \$21, (b) \$20, (c) \$20; concrete masonry "D," (a) \$8.25, (b) \$8.50, (c) \$9. Franklin street, between Queen's Chapel Road and Twenty-fourth street: Excavation, (d) 80 cents, (a) 90 cents, (c) \$1.50; sewer brick masonry, (a) \$15, (b) \$16, (d) \$22.25; 15-inch diameter pipe, (a) 85 cents, (b) \$1, (d) \$1.02; 12-inch pipe, (a) 70 cents, (b) 90 cents, (d) 93 cents; 10-inch pipe, (a) 63 cents, (b) 80 cents, (d) 84 cents. Conduit Road: Excavation, (a) 63 cents; (b) 80 cents, (d) 90 cents, (e) 88 cents, (f) 75 cents; sewer brick masonry, (a) \$14, (b) \$14, (d) \$22.25, (e) \$15, (f) \$14; 24-inch diameter pipe, (a) \$1.12, (b) \$1.15, (d) \$1.34, (e) \$1.25, (f) \$1.19; 21-inch pipe, (a) \$1, (b) \$1.05, (d) \$1.18, (e) \$1.20, (f) \$1.09; 18-inch pipe, (a) 89 cents, (b) 95 cents, (d) \$1.12, (e) \$1.15, (f) 99 cents. Rock Creek Church Road: Excavation, (a) 85 cents, (b) \$1.20, (e) 93 cents; sewer brick masonry, (a) \$16, (b) \$14, (e) \$13.50; vitrified brick masonry "A," \$22, "B," \$21, "E," \$21, concrete masonry "B," (a) \$9, (b) \$9, (e) \$9.40; concrete masonry "C," (a) \$9, (b) \$9, (e) \$8.90; invert blocks laid, (a) 65 cents, (b) \$1, (e) \$1; 6-inch pipe, (a) 30 cents, (b) 40 cents, (e) 30 cents.

**Tampa, Fla.**—The County Commissioners have awarded contract to Bryan & McConnell for the construction of the Clearwater and Dunedin Road, at 45 cents per square yard for paving and 20 cents per square yard for grading.

**Augusta, Ga.**—The Twin City Power Company has awarded a contract to the Ambursen Hydraulic Construction Company, 176 Federal street, Boston, Mass., for the erection of a reinforced concrete dam across the Savannah River at Price's Island, about 25 miles above Augusta, and work will commence as soon as plans are approved by the U. S. Government; the company will erect two dams across the Savannah River, of which the one at Price's Island will be the first; it will be 30 feet high and of sufficient thickness to permit of a roadway suitable for cars and wagons to cross it, serving also as a bridge across the Savannah; it will cost approximately \$3,500,-



000, and will furnish 15,000 horsepower, the greater part of which will be transmitted to Augusta and used by manufacturing companies; the substation of the company will be located on North Augusta and the power needed will be switched off from that point; the second dam, which will be constructed later, will be at Dorton's Creek, higher up the river; it will be similar to the dam at Pope's Island and the power will be transmitted to whatever point it is sold; Nisbet Wingfield, Commissioner of Public Works, Augusta, has been engaged as Chief Engineer and will supervise construction.

**Chicago, Ill.**—The following bids were received by the Board of Trustees of the Sanitary District for constructing transmission line from Morgan Park to Blue Island and from Blue Island to Dalton: (a) Division A, (b) Division B: W. A. Jackson Company, Chicago, (a) \$3,800, (b) \$11,500; Brennan Electric Construction Company, Chicago, (a) \$4,000, (b) \$12,000; J. W. Bailey, Buffalo, N. Y. (a) \$3,900, (b) \$7,600.

The following are the bids received for constructing two brick sub-stations, one at North Leavitt street, and the other at West Twelfth street (bidders all of Chicago): Warner Construction Company, \$7,060; F. E. Roberty, \$8,241; Paschen Bros., \$8,621; Hanson Brothers, \$8,653; McEwen Building and Manufacturing Company, \$8,670; Henry Gilsdorf & Sons, \$9,234; Geo. Lyons, \$9,368; Acme Construction Company, \$9,451; Chas. Volkman & Co., \$9,828; Warren Construction Company, \$10,695; Schillinger Brothers Company bid for only one station, \$5,276.

Bids were received by the Board of Public Works for a bridge over the Illinois and Michigan Canal at Ashland avenue, and the contract for substructure was awarded to John O'Brien, 75 Clark street, for \$5,100, and for superstructure, to the Milwaukee Bridge Company, of Milwaukee Wis., for \$11,000.

**Keithsburg, Ill.**—The contract for the substructure of the Iowa Central Railroad bridge over the Mississippi has been awarded to the Union Bridge and Construction Company, Kansas City, Mo., which will also erect the 4,000 tons of steel work to be fabricated by the McClintic-Marshall Construction Company.

**Marshall, Ill.**—Contract for constructing about two miles of reinforced concrete and vitr. pipe sewers has been awarded to Mercantile Bridge and Concrete Tile Company, of Paris, for \$15,271.

**Evansville, Ind.**—Council has ratified the filter contract, and as the last step in the signing of the contract has been accomplished, the Norwood Engineering Company is now empowered to go straight ahead and finish the filter; the company has been at work on preliminary excavations for three weeks.

**Greenfield, Ind.**—George Whisler has been awarded the contract by the County Commissioners for the construction of the Copeland bridge.—Chas. H. Troy, County Auditor.

**Hartford City, Ind.**—Charles Clame has been awarded contract by the County Commissioners for constructing a macadamized road in Blackford County, at \$12,403.

**Vincennes, Ind.**—The Black Hawk Gas Company has let the contract for another line of pipe about three miles long to P. W. Lenahan; the line is to commence at the Will Warner farm, west of the city, in Allison township.

**South Bend, Ind.**—L. H. Webster, city, has secured the contract for constructing pipe sewers for \$8,667.

**Iowa City, Ia.**—William Horrabin submitted low bid to the city for 5,000 yards excavation and grading at the west approach of the park bridge, at 23 cents.—Edwin J. Slater, City Clerk.

**Ottawa, Kan.**—Council has awarded the contract for macadamizing 15,300 square yards on Locust and Maple streets to Ransom & Cook.

**St. Marys, Kan.**—For constructing water works and lighting plant, Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., the Engineers, received a total of 63 bids on various sections of the work; the general construction work was awarded to W. W. Cook & Son, of Junction City, Kan., at \$22,759.75, the lowest bid, whose bid was also accepted for cast-iron pipe at \$8,578.24, furnishing Skinner engine at \$1,300, furnishing and erecting 70,000-gallon steel tank and tower 100 feet high, at \$3,100, (furnishing the Morava Construction Company structure), furnishing the Platte Iron Works Company pumping machinery at \$1,500, furnishing hydrants and valves at \$1,400; the total amounting to \$38,697.99. For the general work bids were received as follows: Frank A. Hurlbut, Kansas City, Mo., \$29,212; Joplin Electric and Construction Company, Joplin, Mo., \$26,040; W. W. Cook & Son, Junction City, Kan., \$22,760 (awarded contract); Squire Electrical Company, Kansas City, Mo., \$23,628; George M.

King Construction Company, Des Moines, Ia., \$38,090; Lund & Cunyan, Blackwell, Okla., \$23,685; Matthews Electrical Construction Company, Kansas City Mo., \$23,325.

The details of the successful bid follow: Hauling and laying 12,650 feet 4-in. c-l. pipe, at 17 cents per foot; 2,300 ft. 6-in., 18½ cents; 4,780 feet 8-in., 23 cents; hauling and setting 40 hydrants, at \$2; 17 4-in. gate valves and boxes, \$1; 4 6-in., \$1; 13 8-in., \$2; furnishing and setting 200 30-foot white cedar poles, equipped, at \$4.50; 15 35-foot, \$6; furnishing and installing 180 additional 4-pn cross arms, at 55 cents; 160 2-pn, 50 cents; furnishing and installing 160 guy anchors complete, at \$1.50; 25 lightning arresters, \$4; delivering and hanging 26 arc lamps, \$8.50; 17 transformers, \$4; furnishing and stringing 3,552 feet No. 8 T. B. W. P. copper wire, 18½ cents; 1,554 feet No. 6 T. B. W. P. copper wire, 18½ cents; 1,804 feet No. 4 T. B. W. P. copper wire, 18½ cts.; furnishing and erecting boilers, heater, piping, etc., \$4,425; furnishing and installing oil burning equipment, \$1,475; hauling and erecting engine, electrical equipment, etc., \$225; hauling and erecting pumping machinery, \$300; constructing power house, \$3,800; constructing tunnels and wells, \$2,500; constructing wells No. 1 and No. 4, \$400; constructing brick chimney, \$1,500; alternate chimney construction: concrete masonry, 100 cubic yards, \$7; rock excavation, 250 cubic yards, \$2.50.

Furnishing 40 4-in. hydrants, at \$25; 17 4-in. gate valves, \$6.50; 4 6-in. gate valves, \$10; 13 8-in. gate valves, \$17; 34 gate boxes, \$3.

Furnishing 140.2 tons 4-in. c-l. pipe, \$29.20; 147.3 tons 6-in. c-l. pipe and larger, \$38; 12,000 pounds special castings, bell and spigot, 3 cents; flanged and drilled, 4 cents.

Other bids for pipe were: American Cast Iron Pipe Company, 4-in., \$31.75; 6-in. and larger, \$30.05; special castings, bell and spigot, 3 cents; flanged and drilled, 4 cents; Dimmick Pipe Company, 4-in. pipe, \$29.70; 6-in. and larger, \$28.20; bell and spigot castings, \$58, and flanged and drilled castings, \$70 per ton; U. S. C. I. Pipe Company, 4-in. pipe, \$29.25; 6-in. and larger, \$27.75; bell and spigot castings, 3 cents; flanged and drilled, 4 cents; Matthews Construction Company, 4-in. pipe, \$29.70; 6-in. and larger, \$27.20; bell and spigot castings, \$58 per ton.

Other bids for hydrants, valves and gate boxes follow: Western Valve Company, 4-in. hydrants, (a) \$26; 4-in. gate valves, (b) \$6.50; 6-in. gate valves, (c) \$10.25; 8-in. gate-valves, (d) \$16.85; gate boxes, (e) \$3.15. English Tool and S. Company, Kansas City, Mo., (a) \$25.50, (b) \$6.45, (c) \$10.60, (d) \$16, (e) \$2.90. Chapman Valve Company, St. Louis, Mo., (a) \$20.10, (b) \$7.20, (d) \$10.35, (e) \$3.10. Ludlow Valve Company, Troy, N. Y., (a) \$25.30, (b) \$7.50, (c) \$12.75, (d) \$19, (e) \$3. R. D. Wood, Philadelphia, Pa., (a) \$24, (b) \$7.50, (3) \$12, (d) \$19.

**Louisville, Ky.**—The Ferro Concrete and Construction Company, a Cincinnati concern, awarded the contract for the construction of Section E, of the southern outfall sewer, has closed the deal with the Louisville Sewer Commission by signing bonds and giving approved security; this contract, the second to be awarded to the concern, is one of the largest of the sewerage plans now under way in Louisville; it extends from Twelfth and Wilson streets to Ninth and Hill streets and is 3,373 feet long; the contract amounts to about \$110,000; the work on this section will be in charge of W. J. Trimble, who will be assisted by W. M. Venable, a noted engineer; the work on the job will begin in ten days; the first contract, that of Section A, which was awarded some time ago to this concern, is well under way.

**Boston, Mass.**—The Walworth Construction and Supply Company, 100 Pearl street, has secured the contract for repairing Congress street drawbridge over Ft. Point channel for \$3,830.—Wm. Jackson, City Engineer.

**Gloucester, Mass.**—Committee on Fire Department has voted to install the new fire pump from the American La France Company on the lighter "Phillip"; Mr. Reed, the owner of the latter, is to be paid \$1,200 per year for keeping the pump in repair and in readiness for use at all times and \$15 per hour while on duty on fires, with a privilege of using the boat for business purposes when not on duty at fires, permission being given for the boat to go to Rockport, Manchester or Essex for business or fire purposes if not engaged in the service of the city.

**New Bedford, Mass.**—The Committee on Fire Department has received bids for 2,000 feet of hose as follows: N. B. Rubber Company, Reliable, 60; North Star, 58; Rex, 59 cents. Boston Coupling Company, Reliable, 58.5 cents; Cornelius Callahan Company, 65 cents. Boston Woven Hose Com-

pany, 57.5 cents. Eureka Fire Hose Company, Eagle, 65 cents. C. C. C. Fire Hose Company, Ironsides, 59 cents; N. J. Car Spring and Rubber Company, 55 cents. It was voted to award the contract to the New Jersey Car Spring and Rubber Company, the lowest bidder.

**Baltimore, Md.**—The Board of Awards has awarded contract for furnishing, equipping and maintaining street lamps for one year to the American Street Lighting Company; it bid \$10 for ordinary gas lamps and \$10.85 for boulevard and cluster lamps; naphtha lamps, \$26 each; in the city there are 7,400 gas lamps and 1,000 naphtha lamps; contract price for the year will be \$109,289; the Sunlight Illuminating Company put in a bid for a three-year period, their bid being \$6,000 a year lower than that of the accepted bid.

**Cumberland, Md.**—Christopher Roeder, of Cumberland, has secured the contract, at \$4,141, for curbing and paving sidewalks on Springvale avenue.

**Takoma Park, Md.**—Bids were opened by the Town Clerk for the construction of a reinforced concrete steel bridge across Sligo branch together with the grading and macadamizing of the approaches to the bridge, and the contract was awarded the Washington Sanitarium Association, Takoma Park, Md., for \$11,943.84; the bids were separated into three classes; bid A was for constructing the bridge, with foundations and superstructures complete, excepting the macadam roadway; the work called for under bid B was to consist of grading the roadway on Carroll avenue from the west end of the bridge; it was also to include a small fill at the east end. Under bid C the work was to consist of macadamizing the bridge and the approaches from the east end of the bridge. The proposals submitted under bid A were as follows: William A. Fry, of Washington, \$11,885; Washington Sanitarium Association, Takoma Park, Md., \$10,005; Lake Stone Company, Washington, \$10,190. The bids under bid B were: William A. Fry, \$600; Washington Sanitarium Association, \$665; Lake Stone Company, \$588. The bids under class C were: William A. Fry, \$1,700; Washington Sanitarium Association, \$1,273.84; Lake Stone Company, \$2,000. The total amounts of the respective bidders for the construction of the bridge and approaches and filling in were as follows: William A. Fry, \$14,185; Washington Sanitarium Association, \$11,943.84; Lake Stone Company, \$12,778; William A. Fry submitted an alternate bid for \$12,000 for a reinforced concrete bridge of the Kahn system, which, he said would reduce the cost of the bridge. The bids were referred to a committee composed of Mayor W. G. Platt and Councilmen L. R. Graboll and W. W. Dyar; the bridge will have a width of 16 feet and a length of 272 feet, with an elevation above the water line of nearly 50 feet.

**Detroit, Mich.**—F. Porath & Sons, 878 Twenty-fifth street, have secured the contract for paving with brick a portion of Michigan avenue, at \$11,200.—J. J. Haarer, Commissioner of Public Works.

**Minneapolis, Minn.**—Proposals for electric and gas street lighting for 1909 have been received by Council and referred to the Gas Committee; the electric light company submitted a bid at the same rate now charged by the company, \$84 per lamp per year, which is \$14 per lamp higher than the rate fixed by the Walker ordinance of June, 1907; a bid of 90 cents per 1,000 cubic feet for gas for street lighting was submitted by the gas company, which is also the present rate charged. For erecting, maintaining and keeping in repair incandescent gas street lights, the Patterson Street Lighting Company submitted a bid of \$11 per lamp; this bid included the painting of each post once a year and is the same rate now paid.

**St. Paul, Minn.**—The Park Board has awarded the contract for constructing a bridge over the Phalen-Gervais Creek to Bayne & Hewett, of Minneapolis, at about \$6,000.

**Clarksdale, Miss.**—The city has awarded contract for boring an artesian well to Johnson & Fleming, of Memphis, Tenn., to increase the water supply of the town; the contract is made under a guarantee of 150 gallons per minute.—W. W. Funnell, City Clerk.

**Columbus, Miss.**—The city has awarded the contract to P. C. Campbell, Columbus, for the construction of concrete sidewalk, about 33,000 feet.

**Argentine, Mo.**—The Kansas City Bitulithic Paving Company, of Kansas City, has secured the contract for paving Metropolitan avenue at \$50,000.

**Kansas City, Mo.**—Contracts for paving have been awarded by the Board of Public Works as follows: Asphalt paving, to Parker-Washington Company, about 20,246 sq. yd., \$1.90 to \$2.25 per sq. yd.; Cleveland Trinidad Paving Company, 9,844 sq. yd., \$1.90 to \$1.98 per sq. yd., and Barber As-

phalt Paving Co., 1,443 sq. yd., \$2.31 per sq. yd.; and to Wm. Harte, for 2,246 sq. yd. creosoted block pavement, \$2.49 per sq. yd.

Kenneth Hartley, Engineer Commercial Improvement Company, 220 Dwight building, writes that the contract for reinforced concrete approach to Main street viaduct (bids opened November 6) has been awarded to A. M. Blodgett Construction Company, of Kansas City.

The following are the bids received by the Board of Fire and Water Commissioners for the construction of a settling basin adjoining present settling basins at Quindaro, of either 45,000,000 or 50,000,000 gallons capacity; two bids were called for—(a) earth embankment and (b) for a reinforced concrete wall: W. C. Mullin, (a) \$93,298 (awarded contract); (b) \$130,023; Thos. McCarty, (a) \$106,881, (b) \$131,252; Flannigan Bros., Construction Company, (a) \$65,983, (b) \$98,228; John Mahoney, (a) \$101,800, (b) \$153,000; Jos. H. Stone, (b) \$128,000; A. J. Middleton Construction Company, (b) \$175,000; Midland Bridge Company, (b) \$178,000; Urban Construction Company, (b) \$120,083; Kansas City Construction Company, (a) \$112,750, (b) \$135,226; Wynkoop Klersted, Consulting Engineer of the Water Department, advised the Board that it would be against public policy to award the contract to the low bidder, Flannigan Brothers' Construction Company, as they bid but \$65,983.18, while the Engineer's estimate was \$129,000; for the excavation work the concern bid but 18 cents, while the successful firm bid 40 cents.—Frank S. Grous, Chairman of Board.

**Omaha, Neb.**—It will cost approximately \$12,000 to grade the south portion of the Court House Square in preparation for the new building, under bids received by the County Board; Lamoreaux & Peterson were the low bidders, their figures being 39.7 cents a cubic yard; County Engineer Beal estimates between 29,000 and 30,000 cubic yards of dirt will have to be moved. E. W. Lamoreaux was the low bidder on the grading of the Brandies road at 14.75 cents a cubic yard. Bids were also opened for the heating and plumbing plant at the Detention school, Johnson, Rowe, Page Company being the low bidders at \$4,287.

**Salem, N. H.**—The contract for the construction of 4,000 feet of macadam road here has been awarded by A. W. Dean, State Engineer Concord, to Edward Adams, North Andover, Mass.

**Cape May, N. J.**—The contract for constructing 2,094 miles of gravel road known as Schellenger's Landing road, has been awarded to J. L. Clymer, Marshall and Berks streets, Philadelphia, Pa., at \$10.593.

**Elizabeth, N. J.**—Gore-Meehan Company was low bidder for constructing intercepting sewer, at \$128,519.85, but the bid was rejected as the bond was defective, this leaving Joseph Puglia low, at \$147,095.80; other bids received by N. K. Thompson, Street Commissioner, and W. H. Luster, Jr., City Surveyor, were: The Harrison Construction Company, 837 Broad street, Newark, \$180,713.75; A. E. Sanford Company, Hoboken, \$177,148.50; Wade & Callahan, \$174,522.51; Wm. J. McCloud & Co., \$171,297.05; Thos. H. Riddle, New Brunswick, \$180,126.

The details of the low bid follow: Main trunk sewer—2,560 ft. 44 in., 8 to 13 ft. deep, \$9.88; 1,140 ft. 42 in., 4 to 11 ft. deep, \$8.46; 350 ft. 40 in., average 16 ft., \$11.28; 1,000 ft. 38 in., 12 to 16 ft., \$10.74; 1,300 ft. 38 in., 16 to 25 ft., \$13.95; 700 ft. 38 in., 16 ft., \$10.53; 900 ft. 36 in., 15 to 24 ft., \$11.70; 500 ft. 34 in., 16 to 24 ft., \$12.05; 2,150 ft. 32 in., 16 to 25 ft., \$10.87; 1,200 ft. 30 in., 25 ft., \$12.63; 250 ft. 30 in., 17 to 24 ft., \$10.57; 250 ft. 28 in., 17 to 24 ft., \$9.59; 200 ft. 28 in., 24 ft., \$11.08; 100 ft. under river steel, \$11; 2 special manholes, \$75; 11 manholes, 6 to 12 ft., \$50; 9 manholes, over 12 to 14 ft., \$60; 9 manholes, over 14 to 17 ft., \$80; 7 manholes, over 17 to 20 ft., \$90; 11 manholes, over 20 to 23 ft., \$100; 7 manholes, over 23 to 25 ft., \$120; 100 ft. 18 in. pipe, 95c.; 290 ft. 10 in. pipe, 16 ft. deep, \$1.60; 25 ft. 6 in. pipe, 35 c.; 100 ft. 6 in. pipe, \$2.75; 15 ft. 4 in. pipe, \$1.92; 260 ft. 8 in. pipe, 17 ft. deep, \$1.80; 25 ft. 4 in. pipe, \$1.72; 25 ft. 4 in. pipe, \$1.72; 135 ft. 6 in. pipe, 11 ft. deep, \$1c.; 20 ft. 4 in. pipe, \$1.50; 70 ft. 6 in. pipe, \$2; 60 ft. 6 in. pipe, \$1.50; 368 ft. 12 in. pipe, 16 ft. deep, \$1.70; 50 ft. 10 in. pipe, \$2; 15 in. gate valve, \$310; 1 3/8 in. gate valve, \$675; 30 ft. 4 in. pipe, \$1; 90 ft. 6 in. pipe, \$1; 200 ft. 4 in. pipe, 80c.; 230 ft. 12 in. pipe, 10 to 17 ft. deep, \$1.55; South street and Fourth avenue lateral, \$147,241; 1,300 ft. 12 in. pipe, 12 ft. deep, \$1.30; 370 ft. 15 in. pipe, 13 ft. deep, \$1.50; 108 ft. under river steel, \$8.50; 80 ft. 10 in. pipe, 75c.; 25 ft. 8 in. pipe, 78c.; 6 manholes, 12 ft. deep, \$45; 2 special manholes, \$130; South Side lateral, \$3,772.50; 700 ft. 15 in. pipe, 19 to 27 ft. deep, \$4; 360 ft. 15 in. pipe, 23 to 27 ft. deep, \$4; 900 ft. 12 in. pipe, 16 to 23 ft. deep, \$3; 340 ft. 12 in. pipe, 19 ft. deep, \$3; 60 ft. 12 in. pipe, 11 to 19 ft. deep, \$1.60; 650 ft. 12 in. pipe,

19 to 21 ft. deep, \$3; 487 ft. 10 in. pipe, 16 to 20 ft. deep, \$2; 2 manholes, 11 ft., \$50; 6 manholes, 16 to 19 ft., \$85; 6 manholes, over 19 to 24 ft., \$90; 4 manholes, over 24 to 28 ft., \$125; 80 ft. 6 in. pipe, \$1.15; 25 ft. 8 in. pipe, \$1.10; 25 ft. 6 in. pipe, 75c.; 25 ft. 6 in. pipe, 93c.; 300 ft. 10 in. pipe, 14 to 26 ft., \$2.50; 60 ft. 6 in. pipe, 60c.; 40 drip pails, \$2.50; 15,000 cu. yds. rock excavation, \$1.25; Inspector, days, \$1,750; total brick sewer, 185,055; total Parmley block, 147,096; 1-3-6 concrete in place, per cu. yd., \$6.50; brick masonry in place, per cu. yd., \$12.25; spruce timber, wedges, etc., per 1,000, \$50; spruce timber sheathing, per 1,000, \$41; tarred paper, per sq. yd., 7c.; 44 ft. concrete steel sewer, per lin. ft., \$9.50; 42 ft. concrete steel sewer, per lin. ft., \$6.75; 1-2-4 concrete in place, per cu. yd., \$7.50; steel reinforcement, per lb., 6c.; Pozite joints, each, 30c. Parmley block—2,560 ft. 44 in., 8 to 13 ft. deep, \$6.94; 1,140 ft. 42 in., 4 to 11 ft. deep, \$5.82; 350 ft. 40 in., 16 ft. deep, \$8.96; 1,000 ft. 38 in., 12 to 16 ft. deep, \$8.40; 1,300 ft. 38 in., 16 to 25 ft. deep, \$10.36; 700 ft. 38 in., 16 ft. deep, \$7.05; 900 ft. 36 in., 15 to 24 ft. deep, \$8.34; 500 ft. 34 in., 16 to 24 ft. deep, \$8.70; 2,150 ft. 32 in., 16 to 24 ft. deep, \$7.73; 1,200 ft. 30 in., 25 in. deep, \$9.10; 250 ft. 30 in., 17 to 24 ft. deep, \$8.40; 250 ft. 28 in., 17 to 24 ft. deep, \$7.84; 200 ft. 28 in., 24 ft. deep, \$8.57; total for Parmley block, \$99,510; regular bid for all other work, \$47,586; total, including Inspector, \$147,095.70.

**Hackensack, N. J.**—The Board of Chosen Freeholders has awarded the contract for constructing a bridge over the Hackensack River from Riverview Place, Hackensack, to Railroad avenue, Ridgefield Park, to the F. R. Long Company, City, at \$153,185.

**Weehawken, N. J.**—The city has let the contract for 7,000 sq. yds. of repressed paving brick to the Layton Fire Clay Company, of McKeesport, Pa.

**Albany, N. Y.**—The Board of Contract and Supply has awarded the contract to John M. Holler, Albany, for paving Sherman street, between Northern boulevard and Lark street, at \$6,534.

Bids were opened November 11 by Fred Skene, State Engineer and Surveyor, for State Highways, as follows:

Road No. 564—Rome—Augusta—West Moreland, Oneida County, 5.02 Miles: (a) syenite, (b) trap rock.—Newport Construction Company, Newport, (a) \$42,057, (b) \$48,116; Brown & Lowe, Schenectady, (a) \$47,149 (awarded contract), (b) \$54,409; Buckley Construction Company, Plattsburg, (a) \$51,450, (b) \$51,450; C. H. Flannigan, Albany, (a) \$41,154, (b) \$57,116; Hyde & Hyde, Rome, (a) \$54,442, (b) \$57,096; Stewart-Kerbaugh-Shanley Co., New York, (a) \$54,262, (b) \$56,095.

Road No. 571—Spring Avenue, Troy—Poestenkill—Rensselaer County, 2.61 Miles.—Thos. H. Karr, Troy, \$20,323 (awarded contract); Newport Construction Company, Newport, \$23,604.

Road No. 585—Towner's Corners, County Line, Putnam County, 3.93 Miles.—John F. Creeden, New York, \$37,145; H. B. Sproul, Peekskill, \$36,841 (awarded contract); Ryan & Yale, Brewster, \$37,934; Jas. E. Martin, Poughkeepsie, \$37,481; Amos D. Bridges Sons, Hazardville, Conn., \$38,438; John Turname, Carmel, \$38,857.

Road No. 604—Troy-Schenectady, Sect. 3, Albany County, 3.88 Miles.—Elmore-Hamilton, Albany, \$31,935; S. B. Van Wagenen, Rondout, \$35,451; Brown & Lowe, Schenectady, \$33,557; M. Kantrowitz, Albany, \$32,824; Malley & Davis, Schenectady, \$31,023; John Harigan, New York, \$27,697 (awarded contract); Harvey Leamon, Schenectady, \$36,060.

Road No. 610—Mechanicville-Malta, Saratoga County, 7.42 Miles.—Shanley-Morrissey, New York, \$74,666; Richmond F. Hudson, Melrose, Mass., \$71,992; Reardon & Gilcrest, Glens Falls, \$72,798; Kingsbury Construction Company, Sandy Hill, \$64,216; Thos. H. Karr, Troy, \$61,874; Putnam & Hare, New York, \$70,009; Spuyten Duyvil Construction Company, New York, \$89,404; Molloy & Davis, Schenectady, \$63,793; C. H. Flannigan, Albany, \$70,502; Elmore & Hamilton, Albany, \$63,874; Jos. Walker, New Paltz, \$63,665; Newport Construction Company, Newport, \$67,988; Linehan & Burnham, Glens Falls, \$64,217; Gallor & Fox, Saratoga Springs, \$66,719; Buckley Construction Company, Plattsburg, \$66,584.

Road No. 612—Pawling-Dover Town Line, Dutchess County, 2.92 Miles.—Shanley-Morrissey, New York, \$32,957; Sam Beskin, Fishkill, \$33,756; Bellev & Merritt, Tuckahoe, \$50,526; Harvey V. Sproul, Peekskill, \$34,807; Lane Construction Company, Meriden, Conn., \$32,692; Jas. E. Martin, Poughkeepsie, \$31,566; Jos. Walker, New Paltz, \$29,323 (awarded contract); General Construction Company, Bridgeport, Conn., \$29,918.

Road No. 627—Wicopee-Beekman, Dutchess County, 8.1 Miles.—Harvey B. Sproul, Peekskill, \$62,964; Shanley-Morrissey, New York, \$69,883; S. B. Van Wagenen, Rond-

out, \$63,073; McNamee & Rice, Kingston, \$63,666; Jas. E. Martin, Poughkeepsie, \$67,717; Samuel Reskin, Fishkill, \$69,620; J. E. Consalus, New York, \$56,474 (awarded contract); Lane Construction Company, Meriden, Conn., \$60,262; H. S. Kasson, Glens Falls, \$64,129; Jos. Walker, New Paltz, \$58,792; Bellev & Merritt, Tuckahoe, \$61,238; John F. Creeden, New York, \$66,837; Elmore & Hamilton, Albany, \$64,274.

Road No. 630—Troy-Schenectady, Sect. 4, Albany County, 2.24 Miles.—Harvey Leamon, Schenectady, \$22,719; Brown & Lowe, Schenectady, \$21,026; M. Kantrowitz, Albany, \$19,966; Elmore & Hamilton, Albany, \$19,582; F. E. Ellis, Melrose, Mass., \$20,807; John Harrigan, New York, \$16,726; Malloy & Davis, Schenectady, \$19,331 (awarded contract).

Road No. 635—Geneva, Halls Corners, Ontario County, 5.04 Miles.—Nelson Meredith Company, Chambersburg, Pa., \$45,273; Edward Suybolt, Geneva, \$45,882; Hulahan & Daley, Rochester, \$38,206; Henry B. Burgard Company, Buffalo, \$40,968; Chambers & Grady, Rochester, \$45,114; Spuyten Duyvil Construction Company, New York, \$41,293; A. J. Rockwood, Rochester, \$40,245; Monroe Roads Company, Pittsford, \$37,919 (awarded contract); Mosier & Summers, Buffalo, \$41,626; F. A. Brotsch, Rochester, \$43,701; John F. Dolan Construction Company, New York, \$42,357; Booth & Flynn, Pittsburg, Pa., \$43,108; H. C. Schroeder, Rochester, \$43,581; Greece Construction Company, Rochester, \$38,810; Stewart-Kerbaugh-Shanley Company, New York, \$47,479; E. M. Love & Son, Corry, Pa., \$41,434.

Road No. 636—Stanley-Geneva, Ontario County, 3.16 Miles.—Monroe Roads Company, Pittsford, \$17,334; Nelson Meredith Company, Chambersburg, Pa., \$24,704; Hulahan & Daley, Rochester, \$20,563 (awarded contract); F. A. Brotsch, Rochester, \$23,082; Spuyten Duyvil Construction Company, New York, \$23,104; Greece Construction Company, Rochester, \$21,450; Henry B. Burgard Co., Buffalo, \$22,450; Stewart-Kerbaugh-Shanley Co., New York, \$23,838; John F. Dolan Construction Company, New York, \$22,532; H. C. Schroeder, Rochester, \$22,933; Booth & Flynn, Pittsburg, Pa., \$25,518; Mosier & Summers, Buffalo, \$22,419; A. J. Rockwood, Rochester, \$21,961; E. M. Love & Son, Corry, Pa., \$23,877.

Road No. 642—Angola-Evans Center; Angola-Brant, Erie County, 6.9 Miles.—Erie County Board of Supervisors, Buffalo, \$88,604; Mosier & Summers, Buffalo, \$84,630; Frank L. Cohn, Buffalo, \$86,012; Booth & Flynn, Pittsburg, Pa., \$95,152; Jos. Dunfee, Syracuse, \$84,583 (awarded contract); Henry B. Burgard Company, Buffalo, \$88,952; E. M. Love & Son, Corry, Pa., \$100,856; Stewart-Kerbaugh-Shanley Company, New York, \$67,144 (bid incomplete).

Road No. 644—Alden-Town Line, Sect. 2, Erie County, 0.73 Mile.—Erie County Board of Supervisors, Buffalo, \$8,456; F. W. Knickenburg, Buffalo, \$8,417 (awarded contract); Stewart-Kerbaugh-Shanley Company, New York, \$9,907.

Road No. 645—Orchard Park-Griffin's Mills, Erie County, 4.64 Miles.—Frank L. Cohn, Buffalo, \$58,462; Stewart-Kerbaugh-Shanley Company, New York, \$62,740; Mosier & Summers, Buffalo, \$60,527; Booth & Flynn, Pittsburg, Pa., \$56,434 (awarded contract); F. W. Knickenburg, Buffalo, \$57,759; Greece Construction Company, Rochester, \$56,923; Henry P. Burgard, Buffalo, \$59,028; Erie County Board of Supervisors, Buffalo, \$60,224; Jos. Dunfee, Syracuse, \$56,538; Thos. Hucknell, Albion, \$56,933; E. M. Love & Son, Corry, Pa., \$58,048.

Road No. 646—Indian Fields, Dormansville, Albany County, 4.12 Miles.—Morris Kantrowitz, Albany, \$37,712; Frank J. Gallagher, Brooklyn, \$44,421; C. H. Flannigan, Albany, \$38,809; J. H. Gordon, Albany, \$36,795; Malloy & Davis, Schenectady, \$39,350; H. B. Sproul, Peekskill, \$38,156; Spuyten Duyvil Construction Company, New York, \$39,330; Jos. Walker, New Paltz, \$32,852 (awarded contract); Thos. H. Karr, Troy, \$40,541; S. B. Van Wagenen, Rondout, \$36,858; Edward K. Uthe, Coeymans, \$43,782; Shanley-Morrissey, New York, \$40,112; Elmore & Hamilton, Albany, \$35,159.

Road No. 650—Hudson, Hollowville, Columbia County, 5.66 Miles.—Goodwin Construction Company, New York, \$89,503; H. B. Sproul, Peekskill, \$61,217; Elmore & Hamilton, Albany, \$54,546; Spuyten Duyvil Construction Company, New York, \$63,101; Jos. Walker, New Paltz, \$56,317 (awarded contract); Shanley-Morrissey, New York, \$63,003; John F. Creeden, New York, \$59,673.

Road No. 652—Champlain, Perrys Mills, Clinton County, 3.25 Miles.—W. P. Spellman, Chateaugay, \$22,108 (awarded contract); J. F. Creeden, New York, \$24,808; Kingsbury Construction Company, Sandy Hill, \$22,176; Spuyten Duyvil Construction Company, New York, \$26,691; Buckley Construction Company, Plattsburg, \$24,068.

Road No. 654—Oswego-Mexico, Sect. 2,



Oswego County, 5.35 Miles: (a) local, (b) syenite.—Thos. O'Brien, Watertown, (a) \$56,642, (b) \$62,020; W. J. Semper, Watertown, (a) \$50,304, (b) \$55,145; Spuyten Duyvil Construction Company, New York, (a) \$46,459, (b) \$70,010; Casey & Murray, Rochester, (a) \$48,528, (b) \$60,282; C. H. Flanagan, Albany, (a) \$50,019, (b) \$64,939; Burns Bros. & Haley, Watertown, (a) \$55,384, (b) \$63,844; Chambers & Grady, Rochester, (a) \$49,442, (b) \$62,498; Stewart-Kerbaugh-Shanley, New York, (a) \$54,949, (b) \$64,648; Central and Eastern Contracting Company, Albany, (a) \$50,685, (b) \$54,042 (awarded contract); Jos. H. Connors, Fulton, (a) \$51,905, (b) \$55,635.

Road No. 663—Otselic-South Otselic, Sect. 2, Chenango County, 4.42 Miles: (a) limestone, (b) syenite.—Delaware Construction Company, Sidney, (a) \$56,686, (b) \$56,237; Booth & Flynn, Pittsburg, Pa., (a) \$52,547, (b) \$46,137; John H. Gordon, Albany, (a) \$48,233 (awarded contract), (b) \$47,520; Casey & Murray, Rochester, (a) \$58,008, (b) \$53,014; Stewart-Kerbaugh-Shanley, New York, (a) \$56,367, (b) \$52,408.

Road No. 681—Ithaca, Dryden, Sect. 1, Tompkins County, 5.23 Miles: (a) limestone, (b) syenite, (c) trap.—Casey & Murray, Rochester, (a) \$62,527, (b) \$64,200, (c) \$64,758; Standard Construction Company, Wilkes-Barre, Pa., (a) \$55,177, (b) \$57,854, (c) \$58,523; Spuyten Duyvil Construction Company, New York, (a) \$62,638, (b) \$66,886, (c) \$69,031; A. J. Rockwood, Rochester, (a) \$56,058, (b) \$62,751, (c) \$63,309; P. D. Conley, Ithaca, (a) \$55,659, (b) \$57,333 (awarded contract), (c) \$59,006; Stewart-Kerbaugh-Shanley, New York, (a) \$59,899, (b) \$64,519, (c) \$66,856; A. P. Robinson, Cortland, (a) \$62,870, (b) \$67,890, (c) \$70,490.

Road No. 685—Stirling-Oswego, Cayuga County, 4.88 Miles: (a) syenite, (b) trap.—Chambers & Grady, Rochester, (a) \$56,571, (b) \$59,602; Casey & Murray, Rochester, (a) \$55,736, (b) \$57,574; Burns Bros. & Haley, Watertown, (a) \$58,268, (b) \$59,864; Stewart-Kerbaugh-Shanley, New York, (a) \$57,422 (awarded contract), (b) \$60,052.

Road No. 690—Monsey-Egypt Corners, Rockland County, 4.25 miles.—Shanley-Morrissey, New York, \$38,046; Bellev & Merritt, Tuckahoe, \$33,085; John F. Creedon, New York, \$36,062; John E. Consalus, New York, \$28,479 (awarded contract); Rowe Contracting Company, Melrose, Mass., \$38,755; Fuso Gurnee Company, Newark, N. J., \$25,654.

Bids were opened on November 13 at the office of Fred Skene, State Engineer and Surveyor, for improvement of State highways, as follows:

Road No. 708—Sidney-Unadilla, Otsego County, 4.68 Miles—(a) gneiss, (b) trap, (c) limestone, (d) granite.—Delaware Construction Company, Sidney, (a) \$50,721, (b) \$50,721, (c) \$45,518, (d) \$50,721; Newport Construction Company, Newport, (a) \$38,502, (b) \$43,715, (c) \$42,172, (d) \$48,260; John Harrigan, New York, (a) \$35,040, (b) \$35,541 (awarded contract), (c) \$33,063, (d) \$35,040; Elmore & Hamilton, Albany, (a) \$37,217, (b) \$37,217, (c) \$31,715, (d) \$37,217.

Road No. 713—North Tonawanda-Shawnee, Niagara County, 5.13 Miles.—Thomas Hucknall, Albion, \$43,542; F. M. Love & Son, Corey, Pa., \$35,671; Stewart-Kerbaugh-Shanley, New York, \$44,780; Greece Construction Company, Rochester, \$39,383; Huff & Shannon, Buffalo, \$41,425; Bellev & Merritt Company, Tuckahoe, \$38,706 (awarded contract); John P. Johnson, Buffalo, \$42,886; Frank L. Cohn, Buffalo, \$46,679; Henry C. Schroeder, Rochester, \$44,441; Booth & Flynn, Pittsburg, Pa., \$48,823; Mosier & Summers, Buffalo, \$43,430; Jos. Dunfee, Syracuse, \$44,737; F. A. Brotsch, Rochester, \$45,775.

Road No. 714—Dansville-Mt. Morris, Sect. 1, Livingston County, 5.37 Miles.—Booth & Flynn, Pittsburg, Pa., \$61,008; Mosier & Summers, Buffalo, \$60,830; Henry C. Schroeder, Rochester, \$56,147; Greece Construction Company, Rochester, \$56,945 (awarded contract); A. J. Rockwood, Rochester, \$59,130; Chambers & Grady, Rochester, \$61,142; H. P. Burgard Company, Buffalo, \$63,280; Bellev & Merritt Co., Tuckahoe, \$58,195; Hollahan & Daley, Rochester, \$57,956; Stewart-Kerbaugh-Shanley, New York, \$65,058; E. M. Love & Son, Corry, Pa., \$57,125.

Road No. 723—Whitehall-Ft. Ann-Town Line, Washington County, 4.77 Miles.—John F. Creedon, New York, \$33,407; Buckley Construction Company, Plattsburg, \$34,399; Jas. Anderson, Glens Falls, \$35,404; Bellev & Merritt Co., Tuckahoe, \$36,306; Clinton Beckwith, Herkimer, \$37,101; W. J. Semper, Watertown, \$34,447; Kingsbury Construction Company, Sandy Hill, \$35,031; F. E. Ellis, Melrose, Mass., \$42,507; Malloy & Davis, Schenectady, \$34,493; Newport Construction Company, Newport, \$36,060; Jos. Walker, New Paltz, \$35,137; Reardon & Gilcrest, Glens Falls, \$34,942; Putnam & Hare, New York, \$31,609 (awarded contract); Linehan & Burnham, Glens Falls, \$36,009; Shanley-Morrissey, New York, \$37,686.

Road No. 725—Grand Central Avenue, Sect. 2, Chemung County, 0.9 Mile.—J. C. Bradley, Corning, \$16,224; Casey & Murray,

Rochester, \$14,112; Costello & Neagle, Elmira, \$18,379.

Road No. 734—Potsdam-Parishville, Sect. 1, St. Lawrence County, 5.12 Miles.—Casey & Murray, Rochester, \$38,333; Cement Paving and Construction Company, Jersey City, N. J., \$41,280; Spuyten Duyvil Construction Company, New York, \$36,334; McRoberts & Doyle, Ogdensburg, \$41,496; W. J. Semper, Watertown, \$38,271; Buckley Construction Company, Plattsburg, \$40,084; Stewart-Kerbaugh-Shanley, New York, \$39,237.

Road No. 736—North Creek-County Line, Warren County, 4.12 Miles.—Lee Wadell, North Creek, \$34,698; Shanley-Morrissey, New York, \$28,105 (awarded contract); R. S. Kasson, Glens Falls, \$44,729; Bellev & Merritt, Tuckahoe, \$33,324.

Road No. 737—Cortland-Truxton-Cuyler, Cortland County, 5.79 Miles.—(a) trap, (b) syenite.—Newport Construction Company, Newport, (a) \$62,238, (b) \$59,059; Booth & Flynn, Pittsburg, Pa., (a) \$61,688, (b) \$57,994; Casey & Murray, Rochester, (b) \$55,909; Spuyten Duyvil Construction Company, New York, (a) \$58,377, (b) \$54,543; C. H. Flanagan, Albany, (a) \$54,491, (b) \$52,023; Chambers & Grady, Rochester, (a) \$55,346, (b) \$47,878 (awarded contract); Stewart-Kerbaugh-Shanley, New York, (a) \$61,036, (b) \$56,241; A. P. Robinson, Cortland, (a) \$62,370, (b) \$56,165.

Road No. 747—Delhi-Bloomville, Delaware County, 5.91 Miles.—(a) trap, (b) local.—Casey & Murray, Rochester, (a) \$72,624, (b) \$59,244; Delaware Construction Company, Sidney, (a) \$76,491, (b) \$65,819; John F. Clancy, Astoria, L. I., (a) \$67,209, (b) \$60,451; John Harrigan, New York, (a) \$55,638, (b) \$50,067; John F. Creedon, New York, (a) \$66,027, (b) \$58,280; Bellev & Merritt, Tuckahoe, (a) \$67,396, (b) \$59,565; Malloy & Davis, Schenectady, (a) \$66,423, (b) \$52,146.

Road No. 750—Clarence Center, Erie County, 5.95 Miles.—Greece Construction Company, Rochester, \$67,646; Booth & Flynn, Pittsburg, Pa., \$79,284; Hulahan & Daley, Rochester, \$61,831; Mosier & Summers, Buffalo, \$66,187; A. J. Rockwood, Rochester, \$74,272; Erie County Board of Supervisors, Buffalo, \$68,310; F. A. Brotsch, Rochester, \$70,360; F. W. Knickenburgh, Buffalo, \$66,632; Frank L. Cohn, Buffalo, \$66,747; Jos. Dunfee, Syracuse, \$59,002 (awarded contract); John P. Johnson, Buffalo, \$64,829; Thos. Hucknall, Albion, \$64,494; Stewart-Kerbaugh-Shanley, New York, \$67,235.

Road No. 754—Bath-Savona, Steuben County, 1.46 Miles.—John C. Bradley, Corning, \$14,794; Booth & Flynn, Pittsburg, Pa., \$13,692; Stewart-Kerbaugh-Shanley, New York, \$12,567 (awarded contract).

Road No. 768—Ossining-Kitchewan, Westchester County.—Shanley-Morrissey, New York, \$57,699; Jos. Walker, New Paltz, \$50,685; Decico Construction Company, Larchmont, \$44,698; Rowe Contracting Company, Melrose, Mass., \$57,341; Jas. S. Martin, Poughkeepsie, \$47,695; Harvey B. Sproul, Peekskill, \$49,520; S. L. Waller, New York, \$59,658; McNamee & Rice, Rondout, \$53,249; Bellev & Merritt Company, Tuckahoe, \$51,973; Goodwin Construction Company, New York, \$62,737; Wm. F. McCabe, White Plains, \$54,724.

Road No. 769.—Amawalk-Woods Bridge, Westchester County, 4.21 Miles.—The General Construction Company, Bridgeport, Conn., \$31,486; Shanley-Morrissey, New York, \$36,955; F. H. Fowler Construction Company, Mt. Kisco, \$42,147; John F. Creedon, New York, \$32,714; Rowe Contracting Company, Melrose, Mass., \$37,453; Bellev & Merritt, Tuckahoe, \$33,094; McNamee & Rice, Rondout, \$37,808; Ganung & Hoyt, Katonah, \$41,496; Decico Construction Company, Larchmont, \$27,297; John Twinamo, Putnam, \$36,741; Malloy & Murray, Yonkers, \$40,319; Harvey B. Sproul, Peekskill, \$32,768; Wm. F. McCabe, White Plains, \$34,925.

Road No. 770—Golden Bridge-Turk Hill, Westchester County, 3.85 Miles.—Bellev & Merritt Company, Tuckahoe, \$31,768; McNamee & Rice, Rondout, \$37,076; John F. Creedon, New York, \$32,159; Ganung & Hoyt, Katonah, N. Y., \$43,683; Rowe Contracting Company, Melrose, Mass., \$36,446; F. G. Fowler Construction Company, Mt. Kisco, \$40,806; John Twinamo, Carmel, \$34,232; Malloy & Murray, Yonkers, \$37,159; Decico Construction Company, Yonkers, \$26,883; Harvey B. Sproul, Peekskill, \$30,060; W. F. McCabe, White Plains, \$35,230; Shanley-Morrissey, New York, \$35,212; A. D. Bridge's Sons, Hazardville, Conn., \$31,120.

Road No. 784—Cooperstown-Three Mile Point, Otsego County, 3.12 Miles.—Spuyten Duyvil Construction Company, New York, \$34,163; Alonzo Schupp, Albany, \$33,607; Elmore & Hamilton, Albany, \$30,536; Hallinan Brothers, Little Falls, \$39,058; Buckley Construction Company, Plattsburg, \$36,163; D. I. Snell & Co., Canajoharie, \$35,145; Newport Construction Company, Newport, \$34,278; Malloy & Davis, Schenectady, \$31,431 (awarded contract); Delaware Construction

Company, Sidney, \$41,174; John Harrigan, New York, \$30,573; Shanley-Morrissey, New York, \$34,349.

Road No. 788—South Schenectady-Maria-ville, Schenectady County, 7.32 Miles: (a) syenite, (b) local, (c) limestone.—Morris Kantrowitz, Albany, (a) \$73,216, (b) \$60,411, (c) \$67,917; Buckley Construction Company, Plattsburg, (a) \$80,118, (b) \$69,102, (c) \$78,278; Malloy & Davis, Schenectady, (a) \$67,984, (b) \$57,964, (c) \$63,226 (awarded contract); Chambers & Grady, Rochester, (a) \$89,924, (b) \$71,136, (c) \$89,924; Brown & Lowe, Schenectady, (a) \$77,971, (b) \$61,761, (c) \$71,409; Richmond F. Hudson, Melrose, Mass., (a) \$73,431; Casey & Murray, Rochester, (a) \$80,723, (b) \$64,026, (c) \$77,086.

Road No. 794—Huntington, Amityville, Suffolk County, 10.14 Miles.—Casey & Murray, Rochester, \$92,276; Fred T. Ley & Co., Springfield, Mass., \$105,818; Long Island Construction and Supply Company, Long Island City, \$96,766; F. J. Gallagher, Brooklyn, \$106,366; John F. Creedon, New York, \$89,556; Henry J. Mullen, Jamaica, L. I., \$87,376 (awarded contract); Bellev & Merritt, Tuckahoe, \$91,109; Robertson & Gerehart, Brooklyn, \$89,934.

Road No. 795—Jeffersonville-Kenoza, Lake Fosterdale, Sullivan County, 6.2 Miles.—Shanley-Morrissey, New York, \$58,527; Jos. Walker, New Paltz, \$52,589; Casey & Murray, Rochester, \$70,251; Bellev & Merritt, Tuckahoe, \$49,903; John F. Clancy, Astoria, L. I., \$58,568; Clinton Beckwith Company, Herkimer, \$60,507.

Road No. 796—Greenville-Coxsack, Sect. 1, Greene County, 4.62 Miles.—Morris Kantrowitz, Albany, \$41,342; Thos. O'Hern, Yonkers, \$36,825 (awarded contract); O'Connor & McEntire Company, New York, \$42,784; Jos. Walker, New Paltz, \$38,515; Newport Construction Company, Newport, \$40,660; John E. Consalus, New York, \$38,437; Clinton Beckwith Company, Herkimer, \$39,902; Edward Utley, Coeymans, \$38,079; Richmond F. Hudson, Melrose, Mass., \$43,449; Shanley-Morrissey Co., New York, \$44,813.

**Albany, N. Y.**—Bids for two large canal contracts aggregating nearly \$4,000,000 were opened at the office of the State Superintendent of Public Works with many bidders in attendance; five bids were received on contract 40, from Lockport to Sulphur Springs, that submitted by the United Engineering and Contracting Company, of New York, for \$2,166,298 being the lowest. The bid was over \$350,000 under the engineer's estimate.

Of the seven bids submitted for contract 46, from Fox Ridge, Cayuga County, to the Town of Galen, that of the Kinser Construction Company, of Chicago, Ill., and Fort Edward, for \$1,212,833, was the lowest, being \$154,750 under the engineer's estimate, making the total of the low bids on the two contracts about \$500,000 less than the estimates prepared by the engineers.

**Brooklyn, N. Y.**—The Uvalde Company, New York City, has secured the contract for paving with asphalt on concrete foundation Blake avenue, from Hopkinson avenue to Julius street, at the following bid: 9,010 square yards asphalt pavement, including binder course, outside of railroad franchise area (5 years' maintenance), \$1.30; 23 square yards asphalt pavement, including binder course, within railroad franchise area (no maintenance), \$1.30; 1,254 cubic yards concrete, outside of railroad franchise area, \$6; two cubic yards concrete, within railroad franchise area, \$6; total cost, \$19,285.

The following are the bids received by Bird S. Coler, President of Borough, for regulating and paving with asphalt, Class B, on a concrete foundation, Nichols avenue, from Jamaica avenue to Atlantic avenue, (a) 10,930 square yards asphalt, (b) 1,520 cubic yards concrete, (c) totals: Uvalde Company, 1 Broadway, New York City, (a) \$1.35, (b) \$6.10, (c) \$24,027; Cranford Company, 190 Montague street, Brooklyn, (a) \$1.53, (b) \$6.15, (c) \$26,617; Barber Asphalt Paving Company, 30 Church street, New York City, (a) \$1.29½, (b) \$5.90, (c) \$23,122 (awarded contract).

Contracts for asphalt paving on concrete foundation have been awarded as follows: Eighty-fourth street, from Eighteenth avenue to Twenty-first avenue, 7,620 square yards, to Barber Asphalt Paving Company, 30 Church street, New York City, \$17,485; Hinsdale street, from Sutter avenue to Riverdale avenue, 7,660 square yards, to Cranford Company, 190 Montague street, Brooklyn, \$16,194; Rochester avenue, from St. Marks avenue to Boulevard, 7,520 square yards, Cranford Company, \$14,838; Sutter avenue, from Rockaway avenue to Saratoga avenue, 6,440 square yards, Cranford Company, \$13,618.

Bids were received for regulating paving and repaving with granite on concrete foundation Grand street, from Hooper street to Bridge Plaza, and the contract has been awarded to O'Grady Brothers, 71 North Eighth street, Brooklyn, at the following bid: 12,050 square yards granite pavement, with tar and gravel joints, laid outside railroad area (1 year maintenance), \$2.35; 85

square yards granite pavement, with tar and gravel joints, laid within railroad area (no maintenance), \$2.35; 20 square yards old stone pavement, relaid in approaches, etc., 40 cents; 2,050 cubic yards concrete for pavement foundation, laid outside railroad area, \$4.25; 15 cubic yards concrete, for pavement foundation, laid within railroad area, \$4.25; 100 linear feet new curb, set in concrete, 70 cents; 700 linear feet old curb, redressed, rejointed and reset in concrete, including 675 linear feet heading stones, 25 cents; 2,460 square feet new granite bridge stones, laid outside railroad area, 65 cents; 20 square feet old bridge stones, rejointed and relaid, 20 cents; 1 sewer basin, complete, \$135; total, \$39,284. Totals of other bids: Chas. Cranford, Foster avenue and East Sixteenth street, \$46,745; Bart Dunn, 444 East Sixty-eighth street, New York City, \$45,415; Wm. E. Paulson, 13 Fulton street, \$46,799; Chas. A. Meyers, 331 Winthrop street, \$41,081; Leo E. Kelly, 651 Belmont avenue, \$51,219; Jos. Toromino, 42 Pacific street, \$41,919; Henry P. George, 49 Washington avenue, Richmond Hill, L. I., \$40,907; Mathew T. Meagher, 15 Orient avenue, \$40,778; Scoria Paving Company, 103 Park avenue, New York City, \$42,605; John E. Quinn, 13-21 Park Row, New York City, \$41,242; Atlanta Contracting Company, 434 East Ninety-first street, New York City, \$42,136.

Bids were received as follows for regulating and repaving with asphalt on a concrete foundation the roadway of (a) St. Felix street, from Lafayette avenue to Hanson place, together with all the incidental work; (b) Marcy avenue, from Middleton street to Flushing avenue, together with all incidental work; (c) Fleet street, from De Kalb avenue to Hudson avenue, together with all incidental work; (d) Prospect place, from Carlton avenue to Underhill avenue, together with all incidental work; (e) Lincoln place, from Brooklyn avenue to Sterling place, together with all incidental work; (f) Franklin avenue, from Jefferson avenue to Atlantic avenue, together with all incidental work; (g) Arlington avenue, from Jamaica avenue to Fulton street, together with all incidental work; (h) Classon avenue, from Fulton street to Bergen street, with all incidental work; (i) Underhill avenue, from St. Marks avenue to Sterling place, together with all incidental work; Standard Asphalt & Rubber Co., 115 Broadway, New York, (a) \$4,127, (c) \$6,168, (e) \$13,597, (g) \$37,833, (h) \$13,488, (i) \$10,660; Uvalde Asphalt Paving Company, 1 Broadway, New York, (a) \$4,620, (b) \$7,203, (c) \$6,622, (d) \$17,232, (e) \$15,973, (f) \$7,688, (g) \$40,088, (h) \$14,649, (i) \$11,837; Brooklyn Alcatraz Asphalt Company, 407 Hamilton avenue, Brooklyn, (a) \$4,386, (b) \$6,979, (c) \$6,633, (d) \$16,833, (e) \$15,065, (f) \$7,602, (g) \$42,797, (h) \$15,204, (i) \$11,092; Warren Asphalt Paving Company, 93 Federal street, Boston, Mass., (a) \$4,382, (c) \$6,524, (d) \$16,911, (e) \$15,033, (g) \$41,292, (h) \$14,544, (i) \$11,325; Barber Asphalt Paving Company, 30 Church street, New York, (a) \$4,417, (b) \$7,442, (c) \$6,547, (d) \$17,491, (e) \$15,302, (f) \$7,864, (g) \$41,663, (h) \$14,622, (i) \$11,768; Cranford Company, 52 Ninth street, Brooklyn, (a) \$4,319, (b) \$7,171, (c) \$6,423, (d) \$16,637, (e) \$14,561, (f) \$7,653, (g) \$41,759, (h) \$14,146, (i) \$11,207.

**New Brighton (S. I.), N. Y.**—Bids were received as follows by George Cromwell, President Borough of Richmond, for constructing a separate storm water outfall sewer from the bulkhead at the foot of Canal street, westerly through Canal street to the west side of Bay street, etc., all being within sewage district No. 3A in the Second Ward, together with all work incidental thereto: Gore-Meenan Company, 206 Broadway, New York, \$29,893; Thomas Crimmins Contracting Company, 16 East 47th street, \$57,993; Murphy Brothers, \$53,046; W. J. Quinlan, \$45,939; Joseph Johnson's Sons, West New Brighton, \$39,178; John E. Donovan, \$50,384; Bonnac & Vencelli, \$55,330; McHarg, Barton Company, 165 Broadway, New York, \$40,793.

Bids were received as follows on November 10 by George Cromwell, President Borough of Richmond, for (a) furnishing all the labor and materials required for regulating and repaving with vitrified brick pavement on a concrete foundation the gutters of Harrison avenue, from Richmond avenue to Nicholas avenue; Housman avenue, from Richmond Terrace to a point about 440 feet south of Cedar street; Simonson avenue, from Richmond Terrace to a point about 366 feet south of the Staten Island Rapid Transit R. R. crossing, and Pennsylvania avenue from New York avenue to Bay street, together with all work incidental thereto; (b) furnishing all the labor and materials required for regulating and repaving with iron slag block pavement on a concrete foundation the roadways of Water street, from a point about 86 feet south of Richmond Terrace to the south side of Woodruff Lane; Woodruff Lane, from Water street to Barker

street, and Barker street, from Woodruff Lane to the north side of Trinity Place, together with all work incidental thereto: Joseph Johnson's Sons, 193 Broadway, West New Brighton, (a) \$15,487, (b) \$8,905; C. J. Quinlan, Port Richmond (S. I.), N. Y., (a) \$15,269; Bonnac & Vencelli Construction Company, (a) \$15,079; Quinroy Construction Company, West Brighton, (a) \$17,914; John E. Donovan, 29 Morningstar Road, West Brighton, (a) \$16,250, (b) \$8,937; Thomas Carlin Construction Company, (a) \$15,658; Uvalde Asphalt Paving Company, 1 Broadway, New York, (b) \$8,452.

**New York City, N. Y.**—Bids were received November 17 by the Board of Water Supply for test borings in connection with the Hill View distribution reservoir, which ultimately will furnish 100,000,000 gallons of water a day to the Boroughs of Brooklyn and Richmond; the bids ranged from \$105,678 by the Snare & Triest Company, 143 Liberty street, New York, to \$230,300. The river borings will not be begun until April of next year, and the contractors are to have until December 31, 1910.

Bids were received as follows by Louis F. Haffen, President Borough of The Bronx, for (a) constructing a sewer and appurtenances in Nelson avenue, between Boscobel avenue and Featherbed Lane; (b) constructing sewers and appurtenances in East 173rd street, between Hoe avenue and Bryant avenue, and in Bryant avenue, between East 173rd street and the summit southerly therefrom; (c) constructing sewers and appurtenances in East 187th street, between Webster avenue and Park avenue West, and in Park avenue West, between East 183rd and East 189th (Welch street); John Farrell, (a) \$7,807; D. W. Moran, 562 Burnside avenue, (a) \$9,361; George H. Dunn, 481 East 171st street, (a) \$8,572, (b) \$6,744, (c) \$11,054; P. F. Brennan, 244 Mount Hope Place, (a) \$17,786, (b) \$6,998, (c) \$13,226; Stanton Contracting Company, (a) \$8,806; Haggerty Contracting Company, 217 West 125th street, (a) \$10,010, (b) \$8,978, (c) \$12,438; Briggs & McLaughlin, (a) \$9,526, (b) \$9,088, (c) \$22,715; J. S. Rogers, (a) \$10,436, (b) \$9,227, (c) \$11,382; Hanover Contracting Company, 215 West 125th street, (a) \$8,382, (b) \$8,155, (c) \$10,948; J. C. Voorhees, (a) \$9,296, (b) \$8,304; the Wilton Contracting Company, (a) \$9,427; J. H. Karrigan, (b) \$9,804; Joseph Burns, (b) \$9,001; J. J. Maiduva, (b) \$11,306; O'Leary & Flannigan, 245 East 202nd street, (c) \$9,445; John Lyons, (c) \$11,297.

Bids were received as follows by Louis F. Haffen, President Borough of The Bronx, for (a) paving with asphalt pavement on a concrete foundation the roadway of 165th street, between Webster avenue and Morris avenue, and the roadway of Clay avenue, between 164th street and 165th street, and resetting curb where necessary; (b) paving with asphalt pavement on a concrete foundation the roadways and sidewalks of the bridges over the New York, New Haven & Hartford Railroad (Harlem River Branch) at Longwood avenue, Tiffany street, Westchester avenue, Tremont avenue, West Farms road, White Plains road, Unionport road, Williamsbridge road and Baychester avenue; (c) paving with asphalt pavement on a concrete foundation the roadways and sidewalks of the bridges over the New York, New Haven & Hartford R. R. (Harlem River Branch) at East 149th street, Leggett avenue, Lafayette avenue, Barrette street, Longfellow avenue and Ludlow avenue; Barber Asphalt Paving Co., 30 Church street, New York, (a) \$16,385, (b) \$19,080, (c) \$11,526; Continental Asphalt Paving Company, 79 Wall street, (a) \$16,124; Hastings Pavement Company, 25 Broad street, New York, (a) \$16,488; Standard Asphalt & Rubber Company, 115 Broadway, New York, (b) \$18,754, (c) \$11,322.

**Syracuse, N. Y.**—Bids were received by Frank X. Wood, Purchasing Agent, for installing in the Onondago County Home complete equipment for the power plant, consisting of engines, dynamos, boilers, etc., from plans of Archimedes Russell and Melvin L. King, 602 Snow Bldg., Syracuse, as follows: Thomas Gildea, Syracuse, \$23,743 (awarded contract); Frank Leavery, \$31,628; Edward P. Bates, \$25,987; Charles E. Ames, \$26,891; Edward Joy, \$24,847.

Sidewalk award has been made to Philip Thomas for \$210 for the construction of a walk on the north side of Lowell avenue from Schuyler street to Hamilton street, and on the east side of Hamilton street from Lowell avenue to the New York Central tracks; the high bidders were Albert Gaffey at \$269.50 and the Salt City Paving Company at \$335.65.

Three bidders were tied at \$162 for the construction of a walk on the west side of Glahn avenue from Colvin street to Beard avenue; Albert Gaffey, John Barr and the Salt City Paving Company; Philip Thomas bid \$189 and the Artificial Paving Company bid \$199.80.

At the lowest per square foot offer of the day, close to the low record of the season, Albert Gaffey at his bid of \$636.40

was awarded the construction of a walk on Kenmore avenue from Newell street to West Ostrander avenue; he based his bid upon a rate of 8 6-10 cents a square foot, 1-10 cent above the recent low record; for this contract James Barr bid \$658.60, the Artificial Paving Company bid \$843.60, Philip Thomas bid \$703 and the Salt City Paving Company bid \$643.80.

James Barr was the successful bidder for the building of a walk on the south side of Burt street, at \$148.50, while his competitors bid as follows: Albert Gaffey, \$163.35; Philip Thomas, \$179.85, and the Salt City Paving Company, \$193.05.

A contract for the erection of a walk on the west side of Summer avenue from Euclid avenue to Poplar street was awarded to John Barr at \$462.13; Philip Thomas was a close competitor at \$465, the other bidders were as follows: Albert Gaffey, \$518.50; Artificial Paving Company, \$596.91; Salt City Paving Company, \$567.50, and C. T. Hookway, \$554.50.

John Barr was also successful in his bid of \$846 for building a walk on the west side of Ackerman avenue; other contractors submitted proposals as follows: Albert Gaffey, \$903; Philip Thomas, \$930; the Salt City Paving Company, \$990; C. T. Hookway, \$1,059; Artificial Paving Company, \$1,143.48.

**Troy, N. Y.**—The following bids were received by Board of Contract and Supply for paving a portion of 2nd street: North Hudson Valley Contracting Company, Times Bldg., bitulithic \$3.25 per square yard, asphalt block \$3.50, brick \$2.53, granite block \$3.30, sheet asphalt \$2.70; August J. Langefeld, granite block \$3.15, and Hassam Paving Company, \$3; probable cost of improvement, \$12,000.

The Board of Contract and Supply received bids as follows for paving a portion of Congress street: a for 3,900 square yards and b for 2,650 square yards: John H. Gleason & Co., brick, a \$2.53, b \$2.70; sheet asphalt, a \$2.70, b \$2.90; granite block, a \$2.84, b \$2.95; A. J. Langefeld, granite block, a \$3, b \$3.05; Hassam Paving Company, 15 William street, New York, a \$3.10, b \$3.20; probable cost of improvement, \$20,000.

**Fargo, N. D.**—James Kennedy and G. W. Haggart were the successful bidders for sewer work and C. H. Porritt landed the contract for installing the water main.

Bids for 1,000 feet of hose for the Fire Department and the same amount for the Street Department, were opened and referred to the Fire and Water Committee, to investigate and report to the Council; bids were received from the Chicago Fire Hose Company, the W. S. Nott Company, the Boston Woven Hose and Rubber Company, represented by the Fargo Plumbing & Heating Company, the Mineralized Rubber Company, and the Eureka Fire Hose Company.

The following are bids for sewer and water complete, the \* indicating the successful bidder:

**Sewer Bids**—Eleventh street North, 7th to 9th avenues, N.—G. W. Haggart, \$1.48 per foot, manholes \$60 each, catch basins \$61 each; \*James Kennedy, \$1.42 per foot, catch basins \$62 each; C. H. Porritt, \$1.45 per foot, manholes \$59 each, catch basins \$62 each. Twelfth street, N., N. P. to 3rd avenue, N.—G. W. Haggart, \$1.28 per foot, manholes \$55 each, catch basins, \$61 each; James Kennedy, \$1.32 per foot, manholes, \$54 each, catch basins \$62 each; C. H. Porritt, \$1.30 per foot; manholes \$54 each, catch basins \$62 each. Seventh avenue, North Thirteenth street, North.—G. W. Haggart, \$1.48 per foot, manholes \$59 each, catch basins \$61 each; \*James Kennedy, \$1.40 per foot, manholes \$57 each, catch basins \$62 each; C. H. Porritt, \$1.45 per foot, manholes \$59 each, catch basins \$62 each.

**Water Main Bids:** Eighth avenue, N., 7th to 10th streets, N.—G. W. Haggart, \$1.29 per foot, hydrants \$64; James Kennedy, \$1.28 per foot, hydrants \$62; \*C. H. Porritt, \$1.25 per foot, hydrants \$63.

**Ashland, O.**—D. A. Philipps is low bidder on the contract for paving Church street at \$5,700; he will also be awarded the contract for paving Carroll street at \$1,800; Bolens block will probably be used.—E. L. Farry, Engineer.

**Cleveland, O.**—The bid of the Cleveland Electric Illuminating Company to furnish the city with arc lamps for street lighting at \$54.96 per light has been accepted by the Board of Public Service, and the company will light the city streets for the year beginning January 1, 1909. W. J. Springborn hoped the company would lower its price this year as it did last year and he declared that the Municipal Lighting Company, which lights some west side streets, would make as low a bid as the illuminating company.

**Galion, O.**—H. J. Glover, Lorain, has been awarded the contract at \$22,026 for constructing about three miles of trunk line sewer here.

**Hartwell, O.**—W. H. Boyd, of Dayton,



is the successful bidder on a system of storm water sewers in the village, which is a suburb near Cincinnati; the job will cost about \$50,000.

**Lockland, O.**—Contractors Melcher & Morrison are the low bidders for the construction of part of the sewer system at their bid of \$6,600; Engineers Riggs and Sherman, of Toledo, have been asked to inspect the sewer system here with a view of taking care of the waste from the neighboring factories; it is estimated that the contract for building the Wyoming sewer system and disposal plant, contract for which has been awarded to Thomas E. Strack, will amount to \$32,000.

**Philo, O.**—The Board of Commissioners of Muskingum county, Zanesville, have awarded the contract to Clifton Bros., Zanesville, for constructing a concrete abutment at the west end of the river swing bridge at Philo. L. E. Brelsford, County Auditor.

**Springfield, O.**—Gould & Wright, of Toledo, have secured the contract for constructing sewers for \$16,631.

**Toledo, O.**—Gould & Wright have the contract for two large sewers here; one at \$10,000 and the other at \$6,000. J. C. Carland, of this city, is one of the members of the firm.

The contract for the construction of the filtration plant has been awarded by the Board of Public Service to the A. Bentley & Sons Co., River Road, at \$41,358; other bidders were: Henry J. Spieker, \$44,492; C. H. Faths & Sons, Cleveland, \$49,618; Falkelan Electric Construction Co., Chicago, Ill., \$61,584; M. Rabbitt Sons Co., \$61,864. The details of this successful bid follow: Excavation and grading, \$7,400; concrete, \$13,993; brick masonry, \$4,631; cut stone work, \$1,815; steel work, \$7,200; tile roof, \$1,500; carpenter and mill work, \$1,440; painting and glazing, \$284; iron stairs and handrails, \$140; galvanized iron and copper work, \$746; 200 cubic yards extra excavation, 92 cents, and 50 cubic yards extra concrete, \$6.50.

For repaving with sheet asphalt the central thirty feet of Collingwood avenue, from Monroe to Ashland avenue, Henry P. Streicher, city, is the low bidder over Garrigan Brothers, city, and Joseph Henreddy, of Chicago; Streicher bid \$1,224 a yard, with a price low enough on grading, etc., to make his bid come below the \$1.20 a yard bid by Henreddy. Garrigan Brothers bid \$1.32 a yard; the contract embraces 13,350 yards of paving in a length of about 4,000 feet; Mr. Streicher has indicated that he will do the work this winter.—F. I. Consaul, City Engineer.

**Wyoming, O.**—Thos. P. Strack, Goodall Bldg., Cincinnati, received the contract for constructing sewers and a sewage disposal plant from plans of Riggs & Sherman, of Toledo, at the following bid: 4-inch farm tile, per foot, 3 cents; 6-inch farm tile, per foot, 4 cents; 14.195 feet 8-inch vitr. sewer pipe, 16 cents; 4.643 feet 10-inch, 22 cents; 1.255 feet 12-inch, 27 cents; 1.540 feet 15-inch, 40 cents; 900 feet 18-inch, 50 cents; 14,520 cubic yards excavation and backfill, under 8 feet, 50 cents; 2,415 cubic yards, 8 to 10 feet, 60 cents; 805 cubic yards, 10 to 12 feet, 80 cents; 3,227 cubic yards, 12 to 14 feet, \$1.05; 1,000 cubic yards, 14 to 16 feet, \$1.25; 290 cubic yards, 16 to 18 feet, \$2.25; 312 cubic yards, 18 to 20 feet, \$2.50; 56 manholes, each, \$40; 11 flush tanks, each \$100; 10 drop manholes, each \$50; intercepting manholes, each \$60; 18-inch sluice gates, each \$100; c.-l. pipe, per ton, \$40; Portland cement concrete, per cubic yard, \$7; timber in foundations, per 1,000 feet, \$40; extra excavation, per cubic yard, 50 cents; rock excavation, per cubic yard, \$2; disposal works, electric or water motor, \$8,000; total cost, \$32,005.

**Xenia, O.**—J. K. Spencer and John Burnett, Lebanon, O., have secured the contract for fills for approach of the Roxanna bridge over the Little Miami River, Spring Valley township. S. M. McKay is County Engineer.

**Youngstown, O.**—The Board of Service has awarded the contract for paving High street to Kennedy Brothers, whose bid was low at \$18,859; the filler will be of asphalt; the work will not be started until next spring. The contract for grading McHenry street went to Michael Horan.

**Anadarko, Okla.**—The city has awarded the contract to the O'Neil Engineering Company, Dallas, Tex., for constructing a dam on the Washita River and to install water power, extend light, water and sewer systems and other improvements at about \$85,000.—J. C. Stelzner is Mayor.

**Oklahoma City, Okla.**—The city awarded the following contracts on November 4 for street grading and paving: For asphalt pavement, Conway Paving Company, 138 Washington street, Chicago, Ill., \$217,159; Parker-Washington Company, 4500 Duncan avenue, St. Louis, Mo., \$418,820; and Cleveland-Trinidad Paving Company, Cleveland, O., \$27,099; for alley brick pavement, Jo-

seph A. Hanna Company, of Oklahoma City, about \$1,800; for grading streets and alleys, a distance of about 14 miles, Bennett & Acklin Co., and J. R. Alley Co., at \$50,000; total cost, \$813,879.—W. C. Burke is City Engineer.

By a vote of 6 to 4 Council, November 9, moved a reconsideration of the action taken November 4, awarding paving contracts aggregating \$660,000, and by a vote of 7 to 3 adopted a substitute motion put by Councilman R. F. Helm, awarding the contracts to the lowest and best bidder under the five-year contract. The R. F. Conway Company, being the lowest and best bidder, was awarded the contract, for paving aggregating \$625,000, or a difference of \$25,000 between the five-year and ten-year contracts.

**Shawnee, Okla.**—The city has let contract for both brick and asphalt pavement as follows: 75,949.98 square yards asphalt at \$2.17 per square yard; 30,103.82 square yards brick at \$1.94 per square yard; excavation, 57,657.78 cubic yards, at 20 cents and 25 cents per cubic yard; curb and gutter, 48,841.74 linear feet at 70 cents per linear foot; curb only, 2,673 linear feet at 50 cents per linear foot; gutter only, 508 linear feet at 50 cents per linear foot; marginal curb amounting to 3,913 linear feet, at 25 cents per linear foot; corner intakes, 150, at \$2.27 per vertical foot; side intakes 169, amounting to \$2.27 per vertical foot; casting amounting to 93,900 pounds at 4 cents per pound; 12-inch sewer pipe, 7,819 feet, at 85 cents per foot; 15-inch sewer pipe, 7,552 feet at \$1.00 per foot; 18-inch sewer pipe, 3,927 feet at \$1.31 per foot; 21-inch sewer pipe, 735 feet, at \$1.72 per foot; 24-inch sewer pipe, 922 feet, at \$2.16 per foot; manholes, 45 or 250 feet, at \$4.00 per vertical foot.

City has also let contract for both brick and asphalt pavement, as follows: Asphalt amounting to 37,790 square yards at \$2.17 per square yard; brick amounting to 20,788 square yards, at \$1.94 per square yard; curb and gutter, amounting to 27,000 linear feet, at 70 cents per linear foot; marginal curb, 15,000 linear feet, at 25 cents per linear foot, intake basins, 67, at \$2.27 per vertical foot, casting amounting to 40,000 pounds, at 4 cents per pound, manholes, 23, at \$4.00 per vertical foot.

The above two contracts make an aggregate of about eleven miles of paving; contracts will shortly be let for about eight miles more of paving, all asphalt, making a total of about nineteen miles.—F. D. Brown, C. E., City Engineer.

**Ashland, Ore.**—The Washington Pipe & Foundry Company, of Tacoma, Wash., has been awarded contract for constructing a pipe-line for the municipal power plant, at \$14,613.

**Portland, Ore.**—The Warren Construction Company, 314 Lumber Exchange, has been awarded the contract for improving Union avenue, between Holladay avenue and Alberta street, two miles long, at \$160,775.

**Beaver Falls, Pa.**—The following bids have been received by the Borough Council for the erection of a garbage furnace: Lewis & Kitchen, New York and 433 Wash-bash avenue, Chicago, Ill., \$7,295, \$3,420 and \$9,841 for three different sizes; the Morse Boulder Destructing Company, 39 Cortlandt street, New York, \$4,800, \$7,400, \$7,975 and \$10,350 for four sizes; the Dixon Engineering & Construction Company, Toledo, Ohio, \$6,100, \$7,000 and \$7,950 for three sizes. The furnace will have a capacity of from 20 to 25 tons every 25 hours. Contract was let to Lewis & Kitchen, of Chicago, Ill., for a 20-ton furnace at \$2,465, and for erecting building and stack, at \$6,421; total, \$8,886.

The Beaver Valley Electric Company, city, has been awarded the contract for furnishing the electric light to be used in lighting the streets and public buildings here for a period of five years; the company agrees to furnish 90 or more arc light of 1,200 c.-p. each at a flat rate of \$65 per year per lamp; incandescent lamps at \$1.50 per month for 25 c.-p. and \$2.40 per lamp for 50 c.-p.; all repairs and new lamps are to be made and furnished by the light company.

**Charleroi, Pa.**—Hastings, Owens & Piper, city, have been awarded the contract for paving Lincoln avenue. The contract for the brick for this street was awarded to the Mack Manufacturing Company, Pittsburg.

**Erie, Pa.**—The following are the bids received by the Public Dock Commission for overhead construction work on the new dock at the foot of State street: Rogers Bros., Albion, \$12,700; Mulcahey & Walther, Erie, \$12,534; Riverside Bridge Company, Martins Ferry, Ohio, \$12,800; T. H. Brooks & Co., Cleveland, Ohio, \$14,157; Standard Construction Company, Cleveland, Ohio, \$13,405; Erie Car Works, Erie, \$12,990; Lake Shore Construction Company, Erie, \$13,832; American Bridge Company, New York, N. Y., \$15,633; McClintock-Marshall Construction Company, Pittsburg, \$12,290 (awarded

contract), and Pennsylvania Bridge Company, Beaver Falls, \$13,460.

**South Williamsport, Pa.**—Council has purchased from the Eureka Fire Hose Company, through its representative, John A. Smith, 700 feet of Helmet brand hose, guaranteed for four years, at 70 cents per foot, the company giving free two play pipes.

The contract with the Lycoming Electric Company for lighting the streets for five years at \$11 per light per year, with the bond, has been accepted; five new lights were ordered last spring and will be located by the committee.

**Tarentum, Pa.**—The Borough Council received numerous complaints against placing of the garbage furnace on the property purchased by the borough from H. M. Brackenridge on the Bull Creek road, on the ground that it would prove offensive to the residents on the hill and depreciate the value of the property; J. M. Esler suggested that the plant be built outside of the borough, first having the Legislature pass a bill permitting this. On motion by Harris all bids for the building of the furnace were rejected.

**Lexington, S. C.**—The Joliet Bridge & Iron Company, Joliet, Ill., has secured the contract at \$15,575 for the construction of a bridge over Saluda River.

**Memphis, Tenn.**—The contract for auditing the city accounts has been awarded to Leatham, Ewing & Jackson, the consideration for the work being \$900; Israel Peres appeared in behalf of Edward S. Elliott & Co., whose bid was \$2,100; there were five other bids of varying amounts.

The Court House bids were also awarded with instructions to hurry the work as rapidly as possible.

Four front foot improvement contracts were let, two being given to Roach & Mannigan and two to H. W. Brennan & Co.

The compromise entered into between the Memphis Street Railroad Company and Mayor James H. Malone in regard to the changed grade on Jackson boulevard was sustained by Council.

The petition of the Southern Asphalt Oil Company was finally disposed of upon the motion of Councilman Moran, who recommended that the present bills be paid, but that no more oil be placed on the streets without first following the provisions of the charter.

The bid for mineral rubber paving of the Memphis Mineral Rubber Paving Company was likewise awarded; the original proposition contemplated the expenditure of \$28,280 without advertising it, and was defeated several weeks ago; this contract for \$10,000 was the result of the regular advertised invitation for bids, which was the compromise agreed upon.

**Rogersville, Tenn.**—Contract for work on the pike roads of Hawkins County has been let to Patton, Turner & Co., who built much of Green County's roads.

**Austin, Tex.**—William P. Carmichael & Co., Fullerton Bldg., St. Louis, Mo., submitted the lowest bid at \$176,495 on November 5 for the construction of a reinforced-concrete arch bridge at the foot of Congress avenue across Colorado River; the structure to consist of eight spans, each 110 feet long, roadway 38 feet wide and two sidewalks, each 5 feet wide. Waddell & Harrington, Consulting Engineers, Kansas City, Mo.—John W. Hornsby, County Judge.

**Houston, Tex.**—Through the letting of a contract to the Nordberg Company, the city of Houston bought a 15,000,000-gallon pump and completed the duplication of all machinery at the city water plant; the pump is to be in operation within ten months; the Nordberg people were represented in Houston by H. A. Paine; the contract price is \$47,515.

**Sherman, Tex.**—The Allis-Chalmers Company, of Milwaukee, Wis., has secured contract for electric light machinery, engine, generator, exciter and switchboard for \$7,451 and the Western Electric Company, of St. Louis, Mo., for 150 arc lamps, regulator and transformer for \$4,810, all delivered; contract for water works machinery not yet awarded.—Henry Zimmerman, City Secretary.

**Salt Lake City, Utah.**—Bids were opened as follows for the construction of a brick building for suction gas producer plant at main intercepting sewer pumping station: P. M. Anderson, \$4,573; Louis A. Geisler, \$3,425 (awarded contract).

Following is abstract of bids opened by the Board of Public Works, L. C. Kelsey, City Engineer, November 6, for the construction of Sewer Extensions Nos. 211 and 213:

Sewer Extension No. 211—J. D. Hanley, Salt Lake City, Utah, \$649.85; James Kennedy Construction Company, Salt Lake City, Utah, \$768.46. Contract awarded to J. D. Hanley.

Sewer Extension No. 213—J. D. Hanley, Salt Lake City, Utah, \$762.56; James Kennedy Construction Company, Salt Lake

City, Utah, \$923.70. Contract awarded to J. D. Hanley.

Following is the abstract of successful bids for Sewer Extension No. 211: Excavating and backfilling 330.05 cu. yds. at \$1; furnishing and laying vitrified pipe, including 4-inch Ys, 8 inches, 362 lin. ft., 40 cents; constructing one manhole, \$50; constructing one flush tank, \$125.

Sewer Extension No. 213: Excavating and backfilling 410.9 cu. yds., 90 cents; furnishing and laying vitrified pipe, including 4-inch Ys, 8 inches, 665 lin. ft., 35 cents; constructing one manhole, \$50; constructing one flush tank, \$110.

Puyallup, Wash.—The contract for improving Union avenue was awarded to George E. Vergowe for \$4,403.75 by the City Council; instead of timber cribbing for the grading it was voted to install concrete, at a slight increase over the original cost; work will commence immediately; the street will be gravel surfaced and 30 feet wide; a parking strip of 9 feet wide will be made on either side of the roadway and room will be left for a 6-foot sidewalk.

Spokane, Wash.—The lowest bid received for 1,000 tons of c. i. pipe was submitted by McGowan Brothers at \$42.20 per ton for 4-inch, 10-inch and 12-inch pipe, \$42.70 for 6-inch and 8-inch pipe and \$41.70 for 14-inch pipe.

Tacoma, Wash.—The following are the bids received by the Commissioner of Public Works for enlargement of the reservoir at South 31st street and Yakima avenue: Stall & Sweeney, \$58,500; Lester Construction Company, \$57,400; D. A. Williams, \$46,252, and Joe Wells, \$51,160.

Madison, Wis.—The Capitol Building Commission has let to P. F. Harloff, city, the contract for the electrical wiring of the new east wing of the State House, the contract price being \$14,560; Mr. Harloff's bid was the lowest; he has the contract for the wiring on the west wing nearly completed, for which work the price was \$12,225; the additional cost in the east wing is because of the installation of a big switchboard there. All the members of the Commission were present, including Gov. Davidson, George H. D. Johnson, of Milwaukee, O.; H. Ingram, of Eau Claire; Magnus Swenson, of Madison, and A. J. Van Cleave, of Marinette.

West Allis, Wis.—The contract for laying 6,000 feet of 6 and 8-inch water mains has been awarded to George Zimmerman, of Milwaukee.

Hamilton, Ont., Can.—John Montgomery, of Toronto, secured the contract for installing air pressure system for water works system on the mountain top for \$6,500.

G. F. Webb secured the contract for installation of a sewerage system on Mountain Top, in Barton Township, at \$2.29 per foot; total cost, \$26,140.

## TRADE NOTES

**Cast-iron Pipe.**—Chicago: Next year's requirements are coming up for decision and a good many inquiries concerning forward deliveries are being received. Founders are not willing to apply present prices to shipments much beyond January 1. Quotations: 4-inch, \$27; 6 to 12-inch, \$26; 16-inch and up, \$27. Birmingham: Southern producers have advanced prices \$1 and \$2 a ton, but it is doubtful if they are getting the advance except on small sizes. Quotations: 4 to 6-inch, \$24; 8 to 12-inch, \$23; over 12-inch, \$22. San Francisco: More cast-iron pipe is moving than for some time and there are numerous inquiries for small projects and some for large ones. Quotations: 4 to 6-inch, \$30; 8 to 12-inch, \$35; over 12-inch, \$34.

**Pig Lead.**—New York: Metal exchange price, 4.30c. to 4.35c.; American Smelting and Refining Co.'s price, 4.30c. St. Louis, 4.20c. to 4.25c. London, soft Spanish, £13 7s. 6d.; soft English, £14 2s. 6d.

**Culvert Pipe.**—The Ashland Iron Works Company, Ashland, O., manufactures the Carter cast-iron culvert pipe. The pipes are made in two sections, divided longitudinally. The two pieces lock without bolts, and are firmly held in place. Ribs raised above the surface of the pipe encircling it give added strength and tend to prevent the pipe from washing out.

**New Street Car.**—The 135 miles of street car system of St. Paul, Minn., are being equipped with the latest idea in street cars, the "in and out" model, designed at the extensive shops of the Twin City Rapid Transit Company, Snelling avenue, St. Paul. The new car looks like a passenger coach, but has three passenger gates, the two nearest the rear being for passengers entering the car and the third, which has its own separate door to the interior of the car, being exclusively for the use of those leaving the car. The design is intended to facilitate the taking aboard and discharge of passengers, but is so designed as to be at the same time a perfect type of "pay-as-you-enter" car. The latter idea is not to be adopted at present, however, transit officials believing that the more important thing is to facilitate the handling of passengers, and thus shorten crossing stops, permitting better running time on all the longer lines. Some of St. Paul's lines are from 15 to 18 miles in length. A saving of a fraction of a minute at street crossings means a tremendous saving in running time. The new cars are finished inside in cherry and mahogany and are models of convenience and modern ideas. All are fitted with air brakes and push button seat signals for the motormen.

**Incinerating Plant.**—The Bennett incinerating plant, located at Firwood, a suburb of Wilkes-Barre, Pa., is now completed, and the building presents a neat and attractive appearance. The structure is two stories high, made of brick, and will meet all the requirements for which it was designed. David Bennett, the promoter of the company, said the plant was an ideal one. Fires will be started in the building in order to thoroughly dry the interior and after the grading about the building is completed it will be placed in operation.

**Asphalt Heater.**—A Lutz asphalt heater was recently put in operation in Washington, D. C., on Nineteenth street, between G and H streets, Northwest. Captain Markham, Assistant Engineer Commissioner, expects to get one or two more machines at work, as he wishes to resurface 2,000 square yards in 30 days.

**Internal Combustion Engine.**—One of the twin Diesel engines made by the American Diesel Engine Company, 1 Broadway, New York City, which is to drive the generators for the new lighting plant at Fort Worth, Tex., has been set up and tested at the factory in Wisconsin and both will be ready for shipment within a comparatively short time. Some delay at the factory now is being caused by the careful work required for the big 16-inch steel shaft which connects the first engine with the generator. By February it is believed the plant can be in working order and much of the lighting system can be in service.

**Special Paving Brick.**—M. H. Arthur, Stamford, Conn., manufactures a special paving block for use next to T-rails. The blocks are called "hump" blocks, from the projection designed to throw wheels of vehicles out of the rut which would otherwise be formed next to the rail. The blocks have been used in more than 20 cities.

**Jandus Arc Lamp.**—In our issue of October 21, page 583, under the caption "Daniels Boulevard Lighting System," we inadvertently stated that the lamp has a life of 25 hours per trim. The statement should have been that the life is 125 hours per trim.

## PROPOSALS

### CONSTRUCTING AND LEASING WATER WORKS

Connersville, Ind.

Notice is hereby given that the city of Connersville, Indiana, will, on the 12th day of January, 1909, at 7:30 o'clock P.M., receive proposals for the construction and leasing to said city of certain improvements and additions to the city water works and water supply of said city according to specifications on file in the City Engineer's office.

All proposals to be in the form of an offer to purchase real estate on which to construct pipe lines, pumping station and other things and to lease all of such property to the city for a term of years, not less than ten (10), nor more than twenty-five (25), at an annual rental to be specified in proposal and providing for the right of said city to purchase said property and water supply at the end of term of years for a fixed price to be therein specified.

Such proposal shall be accompanied by plans and specifications, showing style of structure and machinery to be erected and specified, together with the contract or lease. The lessor to guarantee the maintenance of the source and supply of water.

Proposal to be accompanied by good bond payable to said city in the penal sum of one hundred thousand (\$100,000) dollars, conditioned that said lessor will complete said additions in accordance with terms of specifications and guarantee the maintenance of said source of water supply during term of lease.

The city reserves the right to hold any or all proposals open to acceptance until one is accepted according to the method prescribed by law.

JACOB S. CLOUDS,  
City Clerk.

(22-23)

### ELECTRIC ARC LIGHTS

#### Bids for Public Lighting

Tampa, Fla.

Sealed bids will be received at the office of the City Clerk until 12 o'clock noon, November 27, 1908, for lighting the streets of the city of Tampa with one hundred or more electric arc lights. Specifications may be had on application to the City Clerk.

JOHN T. GUNN, W. LESLEY BROWN,  
Pres. City Council. Acting Mayor.

(22-24)

### GAS LIGHTING

#### Bids for Public Lighting

Tampa, Fla.

Sealed bids will be received at the office of the City Clerk until 12 o'clock noon, November 27, 1908, for lighting the streets of the city of Tampa, Fla., with three hundred or more gas lamps. Specifications may be had on application to the City Clerk.

JOHN T. GUNN, W. LESLEY BROWN,  
Pres. City Council. Acting Mayor.

(22-24)

### WATER WORKS

Yorkville, Ill.

Sealed bids will be received by the Village Board of Yorkville, Ill., until 8 o'clock P.M., December 1, 1908, for the construction of a concrete reservoir.

15-horsepower gasoline engine.  
250-gallon-per-minute rotary pump.  
5,915 feet 6-inch c.-i. pipe, laid.  
Pump house.

Certified check of \$500 must be deposited with each bid.  
H. D. HALLETT,  
Consulting Engineer,  
DR. McCLELLAN, Aurora, Ill.  
Chairman Water Works Committee,  
Yorkville, Ill.

## FOR SALE

### 1 FRAZER & CHALMERS

#### Cross Compound Corliss Engine

size 17x28x30 inches direct connected to two Riedler pumps, size 12½x30 inches, capacity, 8,000,000 gallons in 24 hours, speed 100 revolutions. The above pump may be seen in operation. M. H. WEST, Supt., Lincoln Park System, Clark and Center Sts., Chicago. (21-22)



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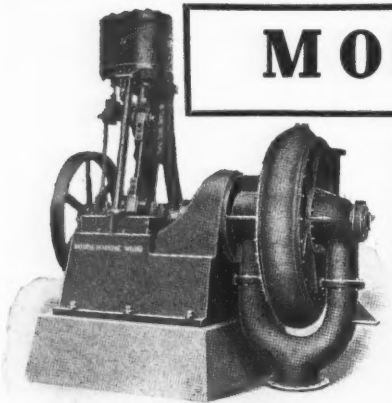
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